

JAMAICA.

FEBRUARY 19, 1884.

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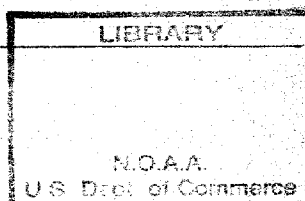
WEATHER REPORT

FOR THE MONTH OF

JANUARY, 1884.

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March 28, 2002

METEOROLOGICAL RESULTS FOR JAN., 1884.

KINGSTON:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric pressure ...	30.101	30.021	30.110	30.078
Temperature of the air ...	69°·4	82°·9	71°·5	74°·6
Dew-point ...	64·8	69·6	66·0	66·8
Humidity ...	85	65	83	78
Maximum Temp. ...	...	...	...	84°·8
Minimum Temp. ...	...	...	...	67·5
Range of Temp. ...	...	...	...	17·3
Minimum Temp. on Grass ...	...	...	...	60·6
Direction of the Wind ...	...	...	...	S.E.
Velocity of the Wind in Miles per hour ...	...	...	...	4·0
Percentage of Cloud ...	...	...	...	32

Total Rainfall—0·75 inches.

Average Weather:—Fair.

The highest temperature was 88°·4 recorded on the 16th; the lowest was 63°·5 recorded on the 30th; the extreme range was therefore 24°·9. The lowest temperature on the grass was 56°·5 recorded on the 30th.

CINCHONA PLANTATION:—

			in.
Barometric Pressure	7 a.m.	...	25·314
"	3 p.m.	...	25·287
Temperature of the air	7 a.m.	...	56°·2
"	3 p.m.	...	61·7
Dew-point	7 a.m.	...	51·7
"	3 p.m.	...	57·2
Maximum Temperature	...	...	65·2
Minimum Temperature	...	...	54·1
Range of Temperature	...	...	11·1
Direction of the Wind	...	...	E.
Velocity of Wind in Miles per hour ...	...	...	3·4
Temperature 6 feet under ground ...	...	...	61°·2

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level:—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range, elevation about 5,600 feet) the mean maximum and minimum temperatures were 66°·7 and 48°·6 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 85°·7 and 65°·8 respectively.

THE HEALTH OF KINGSTON was about the average, the death-rate being 31·5 per thousand. There were 23 deaths from Lung-disease, 25 from Infantile diseases (not otherwise specified) and 7 from Diphtheria.

Attention was called in the last report to the unusual number of deaths from Lung-disease from some unknown cause which renders prediction impossible; the Meteorological conditions are, however, unfavourable for February.

The increase in the number of deaths from Infantile diseases (not otherwise specified) was anticipated in the last report, and we may look for a further increase for February.

Deaths from Dysentery and Diarrhoea may be expected during February.

There were a few deaths in January from Diphtheria—for which I believe we must look to sanitary rather than meteorological conditions.

THE HEALTH OF MONTEGO BAY during January was good, according to Mr. S. E. Payne's monthly report to the Sanitary Board; there were a few cases of fever near Barnett Street,—attributable, it was said, to a swamp

at the end of Fish Lane; and the Board ordered that this swamp should be gradually filled up. There were 12 deaths in the town, chiefly among the aged and infirm.

THE RAINFALL FOR JANUARY, 1884.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October 1883, as Nos. 31 and 33 of the present series of reports. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those stations are considered for which the average Rainfall has been given in the second columns, so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall returns:—

NORTH-EASTERN DIVISION.

		JANUARY.	
		1884.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	...	...
Hordley	...	4·92	...
Holland	...	3·88	...
Leith Hall	...	...	...
Potosi	...	...	...
Boston	Portland	...	...
Port Antonio	...	10·67	...
Spring Garden	...	19·25	...
Chepstow	...	18·50	...
Woodstock	...	...	...
Cinchona Plantation	St. Andrew	12·05	10·60
New Haven Gap	...	26·47	...
Newton	...	...	...
Tweedside	...	...	...
Stony Hill	...	6·82	4·82
Castleton Gardens	St. Mary	10·92	9·71
Dover	...	...	...
Annotto Bay	...	9·20	...
Water Valley	...	8·36	10·72
Quebec	...	...	...
Port Maria	...	...	...
New Ramble	...	10·95	7·68
Gayle	...	...	...
Llanrumney	...	...	...
Goshen	...	8·62	...
Rio Hoe	St. Ann	6·51	...
Unity Valley	...	6·64	7·63
Albion	...	6·24	6·15
Bradfield	...	7·36	8·24
Drax Hall	...	6·71	7·30
Seville	...	8·43	...
Richmond Estate	...	7·71	...
Llandeverly	...	9·11	...
Means		8·45	8·09

NORTHERN DIVISION.

		JANUARY.	
		1884.	Average.
		In.	In.
Lillyfield	St. Ann	12·59	...
Home Castle	...	7·81	...
Richmond Pen	...	5·61	...
Colchis Pen	Trelawny	8·40	...
Mahogany Hall	...	5·50	3·95
Hopewell	...	6·08	7·21
Brampton Bryan	...	2·85	5·32
Bryan Castle	...	3·28	5·31
Nightingale Grove	...	3·81	...
Braco	...	1·96	5·01
Arcadia	...	4·31	...
Harmony Hall	...	...	...
Lancaster	...	3·51	5·12

NORTHERN DIVISION *continued.*

		JANUARY.	
		1884.	Average.
		In.	In.
Vale Royal	Trelawny	4.19	5.39
Hyde Hall	...	4.29	...
Hyde	...	4.23	6.05
Swanawick	...	5.49	...
Long Pond	...	5.60	...
Georgia	...	3.32	5.02
Steelfield	...	...	...
Etingdon	...	3.90	...
Oxford	...	...	...
Cambridge	...	...	...
Spring	...	2.63	...
Lottery	...	4.62	4.18
Pembroke	...	3.43	...
Falmouth	...	...	...
Holland Pen	...	1.29	...
Golden Grove	...	3.15	4.43
Fontabelle	...	3.38	...
Green Park	...	2.61	5.18
Tilston	...	2.43	5.52
Orange Valley	...	3.07	4.79
Kent	...	2.35	...
Dundee	...	1.92	5.31
Gale's Valley	...	3.00	4.47
Hampden	St. James	3.31	...
Greenwood	...	2.15	...
Lima	...	...	...
Content	...	...	...
Gullsbro'	...	2.50	...
Spring Vale	...	4.89	5.65
Latium	...	4.08	5.10
Success	...	2.91	4.51
Cinnamon Hill	...	...	...
Rose Hall	...	...	...
Running Gut	...	1.09	3.78
Tryall	...	2.50	...
Leogan	...	2.51	...
Irwin	...	1.50	4.32
Ironshore	...	2.06	...
Providence	...	...	...
Montego Bay (Market)	...	3.07	...
Catherine Hall	...	4.28	...
Catherine Mount	...	5.00	4.36
Fairfield	...	4.64	...
Means		3.42	5.00

WEST CENTRAL DIVISION.

		JANUARY.	
		1884.	Average.
		In.	In.
Linstead	St. Catherine	3.49	...
Worthy Park	...	...	...
Lloyds	...	...	...
Chapelton	Clarendon	...	...
Pennants	...	...	...
Whitney	...	...	...
Cave Valley	St. Ann	2.34	2.95
Haubury	Manchester	...	...
Mandeville	...	...	...
Marshall's Pen	...	2.86	4.01
Derry	...	3.05	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	...	...
Appleton	...	2.28	...
Maroon Town	St. James	3.97	...
Holland	St. Elizabeth	4.94	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	4.57	...
Mount Charles	...	...	...

WEST CENTRAL DIVISION, *continued.*

		JANUARY.	
		1884.	Average.
		In.	In.
Mount Edgewcombe	Westmoreland	3.07	...
Windsor Forest	...	...	...
Kew Park	...	...	...
Hermitage	...	2.50	...
Hazelymph	St. James	...	...
Chester Castle	Hanover	1.18	...
Copse	...	2.94	3.99
Burnt Ground	...	1.65	3.18
Haughton Grove	...	...	...
Kempshot	St. James	4.58	...
Bandon	...	4.16	...
Anchovy	...	3.90	...
Wiltshire	...	2.63	...
Eden	...	2.41	...
Round Hill	Hanover	3.34	...
Cacoon Castle	...	4.40	4.87
Sod Hall Pen	...	1.85	...
Golden Grove	...	2.25	...
Tryall	...	1.56	2.13
Carawina	Westmoreland	...	...
Sweet River	...	2.12	...
Shrewsbury	...	...	...
Paradise Pen	...	2.50	...
Roaring River	...	...	...
Fort William	...	...	...
Mackfield	...	...	...
Mesopotamia	...	...	...
Cornwall	...	...	...
Windsor (Sav.-la-Mar)	...	1.51	1.89
Fontabelle	...	1.75	...
Frome	...	...	...
Belle Isle	...	...	...
Grange Hill	...	...	...
Retreat	...	2.89	...
Point	...	...	...
Kew Estate	...	...	...
Haughton Court	Hanover	...	...
Orange Cove	...	2.47	3.96
Prospect	...	...	...
Haughton Hall	...	...	...
Abingdon	...	4.23	...
Phoenix	...	...	...
Means		2.47	3.37

SOUTHERN DIVISION.

		JANUARY.	
		1884.	Average.
		In.	In.
Albion Hospital	St. Thomas	1.00	...
The Abbey	...	2.88	...
Halberstadt	St. Andrew	...	...
Hope Plantation	...	2.37	...
Constant Spring	...	...	...
Cherry Garden	...	3.29	...
King's House	...	2.09	...
Monaltrie	...	1.27	1.56
Public Works Office.	Kingston	...	...
Palisadoes Plantation	...	0.29	1.70
Plumb Point L. H.	...	0.48	1.16
Ewing's Caymanas	St. Catherine	...	...
Spanish Town	...	1.76	...
Windsor Park	...	0.86	...
Hog Hole Pen	...	3.04	...
Headworks, R. C. C.	...	5.04	...
Cedars	...	...	...
Lodge Estate	...	...	...
Roden Pen	...	...	...
Old Harbour	...	1.85	...
Springfield	...	0.42	...

SOUTHERN DIVISION, *continued.*

		JANUARY.	
		1884. | Average.	
		In.	In.
Experiment	Clarendon	...	...
The Bog	...	1.41	...
Greenwich	...	...	...
Yarmouth	...	...	...
Denbigh	...	...	...
Farm Plantation	Manchester	4.14	...
Great Valley	...	2.28	...
Stone's Hope	...	4.24	...
Pepper	St. Elizabeth	...	...
Long Hill	...	3.56	...
Gilnock Hall	...	...	...
Santa Cruz	...	...	...
Bloomsbury	...	5.62	...
Black River	...	3.49	1.75
Hodges	...	3.24	...
Font Hill	...	...	...
Means		1.38	1.54

COMPARATIVE TABLE.

(Based upon the "Average" Stations only.)

		JANUARY.	
		1884. | Average.	
		In.	In.
North Eastern Division		8.45	8.09
Northern	"	8.42	5.00
West Central	"	2.47	3.37
Southern	"	1.38	1.54
The Island		3.93	4.50

The Rainfall for January was therefore a little below the average,—a marked improvement on the two preceding months whose rainfall was only half their average.

The Rainfall was distributed with tolerable uniformity, excepting indeed a few places in the North Eastern Division where the rainfall was excessive:—New Haven Gap, 26½ inches, and Spring Garden and Chepstow about 19 inches each.

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 0.31 and 0.18 inches respectively.

METEOROLOGICAL RESULTS FOR 1883.

KINGSTON, JAMAICA.

The following table gives the results of the observations made in Kingston by Mr. Robert Johnstone, and it is similar to the tables for 1881 and 1882 published in the *Handbooks of Jamaica*.

The readings of the Barometer and the Thermometers are taken at 7 a.m., 3 p.m., and 11 p.m. local mean time, and they have all been corrected to the Kew Standards; the Dew-point has been deduced from the Dry and Wet-bulbs by means of Glaisher's factors; and every care has been taken to insure accuracy.

MEAN RESULTS FOR THE YEAR 1883.

Month.	Barometer: corrected and reduced to 32° sea level.				Temperatures.							
	7 a.m.	3 p.m.	11 p.m.	Mean.	7 a.m.	3 p.m.	11 p.m.	Mean.	Max.	Min.	Diff.	Min. on grass.
	In.	In.	In.	In.	°	°	°	°	°	°	°	°
January	30.084	30.024	30.109	30.076	71.3	82.8	72.8	75.6	85.4	69.8	15.6	63.1
February	30.079	30.001	30.089	30.056	70.6	84.2	71.9	75.6	86.4	68.7	17.7	61.4
March	30.059	29.990	30.066	30.038	71.6	82.1	73.6	75.8	84.2	69.0	15.2	62.6
April	30.020	29.945	30.021	29.995	76.6	83.4	74.7	78.2	85.4	70.5	14.9	64.4
May	30.036	29.945	30.012	29.997	79.6	85.9	76.0	79.8	87.5	72.7	14.8	67.2
June	30.036	29.974	30.051	30.020	80.8	84.8	77.7	81.1	88.1	74.4	13.7	68.5
July	30.071	30.060	30.057	30.063	80.5	86.3	77.3	81.5	88.5	73.8	14.8	66.8
August	30.035	29.960	30.040	30.008	79.1	85.9	76.7	80.6	88.5	73.6	14.9	66.9
September	29.990	29.922	30.003	29.972	77.8	85.4	76.9	80.0	88.0	74.0	14.0	69.8
October	29.974	29.905	29.980	29.953	75.9	83.3	75.3	78.2	87.7	72.9	14.8	68.3
November	29.976	29.899	29.975	29.950	73.8	83.2	73.2	76.4	86.0	70.8	15.7	64.7
December	30.037	29.956	30.037	30.010	70.6	83.9	71.8	75.4	85.6	68.3	17.3	61.8
Mean.	30.030	29.960	30.039	30.010	75.6	84.1	74.9	78.2	86.8	71.5	15.3	65.4

Month.	Wind		Dewpoint and Humidity.		Cloud per cent.	Rainfall	Absolute Temperatures.			Weather.
	Direction (from)	Miles per hour	°	%			Max.	Min.	Diff.	
			°	%		Inches.	°	°	°	
January	S.E.	4.2	68.2	79	42	3.73	80.8	66.7	23.1	Fair, with showers.
February	S.E.	4.6	66.3	74	28	0.31	90.4	64.9	25.5	Clear and fair.
March	S.E. by S.	4.1	69.3	82	35	2.57	87.6	64.6	23.0	Fair.
April	S.E.	4.5	69.5	75	39	0.28	88.8	66.8	22.0	Fair.
May	S.E.	2.5	71.6	77	46	1.15	90.3	68.3	22.0	Fair, with light showers.
June	S.E. by E.	5.2	72.1	75	61	2.26	90.5	70.4	20.1	Cloudy and squally to the 20th, afterwards fine.
July	S.E. by E.	6.1	71.5	72	60	1.25	93.3	70.6	22.7	Fair.
August	S.E.	4.3	74.1	81	41	6.62	90.8	70.7	20.1	Fair, with afternoon showers.
September	S.E.	3.7	74.5	84	77	3.63	90.3	71.7	18.6	Cloudy and unsettled.
October	S.E.	3.1	72.9	84	71	4.46	90.3	70.8	19.5	Cloudy with light "seasons."
November	Variable.	2.7	70.5	83	44	3.67	88.8	65.0	23.8	Fair, with showers.
December	S.S.E.	2.8	67.9	78	47	0.17	89.3	63.6	26.2	Fair and dry—not much air moving.
Mean.	S.E.	4.0	70.7	79	49	...	90.0	67.8	22.2	
Total.	...	...	...	...	...	30.10	...	...	...

THE JAVA EARTHQUAKE WAVE.

In the Weather Report for November (No. 35) it was stated that the Kingston barometer had been affected by the Java catastrophe, and the readings were given; but surprise was expressed that the effect should have been felt so far from the source of commotion.

In a paper communicated to the Royal Society, General Strachey says:—"Any shock of sufficient violence might be expected to produce an atmospheric wave, advancing from the place where it was caused in a circular form round the globe, at first expanding until it had got half round the earth, and then again contracting till it was again concentrated at the antipodes, from which again it would be thrown back, and so pass backwards and forwards till it was obliterated." (*Nature*, Vol. 29, p. 181.)

Now as Jamaica is near the antipodes of Krakatoa, we felt the concentrated effect alluded to by General Strachey; but it is particularly to be noticed that the atmospheric disturbance travelled westwards from Krakatoa 32 miles an hour faster than it travelled eastwards:—an effect probably due to a westerly motion of the air of 16 miles an hour, accelerating the westward motion of the disturbance and retarding its eastward motion. And by combining this effect with an average velocity of 690 miles an hour, which is somewhat less than that of Sound, it has been shown that the atmospheric disturbance would have travelled half way round the Earth in 17 hrs. 39 min. by its westward course, and in 18 hrs. 29 min. by its eastward course.

Again it has been shown that the disturbance must have started from Krakatoa on Aug. 27th at 9 hr. 24 min. a.m. local time,—or at 2 hr. 24 min. a.m. Greenwich time,—or at 9 hr. 17 min. p.m. Aug. 26th Kingston (Jamaica) time; and as the disturbance was felt at Kingston at about 3 p.m. the following day, the disturbance travelled from Krakatoa to Kingston in about 18 hours, which is wholly in accordance with its velocity deduced from several places in Europe and elsewhere.

From Jamaica the disturbance travelled back to Krakatoa, affecting other places as it passed over them, and arriving there at about 9 hr. 31 min. p.m. on Aug. 28th local time, whence it started afresh, and would reach Jamaica again at about 3 a.m. on the 29th Kingston time. As 3 a.m. is midway between our 11 p.m. and 7 a.m. readings we lost the record of the second oscillation from Krakatoa.

It appears that there was even a third oscillation before the disturbance died out.

Now with reference to the original impulse, there was no great explosion at Krakatoa at 9 hr. 24 min. a.m. on Aug. 27th although there was one at 11 hr. 15 min. according to Mr. Watson whose ship was within a few miles of the volcano on the morning of Aug. 27th; but in Jamaica we know that the atmosphere is affected by earthquake shocks without the slightest approach to explosive action, and that even the clue to the connection is still missing.

Many of these notes have been taken from *Nature* (as quoted above) to which we must refer our readers for further information on this most interesting and important subject.

EARTHQUAKE No. 17,

On January 14th a smart shock of Earthquake was felt over nearly the whole Island of Jamaica.

Mr. D. Morris, Director of Public Gardens and Plantations, writes:—

"A rather severe shock of earthquake was felt here at 1 hr. 18 m. p.m. on the 14th inst.; the direction, as nearly as could be gathered, was from north to south. It lasted about 30 seconds, and consisted not merely of one or two oscillating movements, but of a series of violent rasping shocks, as if one was drawn in heavy tram-cars with the breaks on.

The barometric readings for the day were as follows:—

	Bar.	Ther.
	in.	
7 hr. 0 min. a.m.	25.334	58°
1 " 18 p.m.	25.346	65.7
2 " 18 "	25.336	67.3
3 " 0 "	25.336	66
3 " 18 "	25.332	65.5
4 " 18 "	25.344	65.5

The sky was overcast with heavy banks of clouds on the Blue Mountain Range, a heavy haze obscured the view towards the sea, while the air was perfectly calm and still.

Soon after the Sun came out with a bright glare and the sky comparatively clear."

The Revd. E. Bassett Key writes from Siloah in St. Elizabeth:—"A slight but well-defined shock took place here at 1 hr. 21 min. Temp. 83° in shade; day cloudy to westward: wind imperceptible". The Revd. J. A. Garcia del Rio writes from Hampden in St. James:—"I beg to report to you a pretty sharp and rather prolonged shock of earthquake as having been experienced here on the 14th inst. between 1.15 and 1.20 p.m. The weather was very fine, sky clear overhead and around, excepting a few fleecy clouds to the south and west, and a strong sea-breeze blowing from 10 a.m. all day till evening. My coachman started to me subsequently that he also had felt a good shock of earthquake at about daylight on the 14th. The weather at that time was cloudy to the north-east with distant rain in that direction, and quite calm."

Mr. C. M. Martin writes from Union Hill, Moneague respecting the shock:—"It occurred at 11 min. past 1 o'clock yesterday, and apparently the undulations were from east to west. Its approach was notified by a creaking of the roof about half-a-minute before the earthquake itself was felt."

In the *Tri-Weekly Gleaner* of Jan. 15th, we read:—"Yesterday afternoon at 17 min. past 1 o'clock, a severe shock of earthquake was felt in this city, which lasted some few seconds. In Port Royal Street, at the *Gleaner* Office, the shock caused a perceptible vibration of the frames and tables from north to south accompanied by a rumbling noise like distant thunder."

At Park Lodge a slight tremor was felt, lasting for about half a second, and then after a brief interval there was a more distinct shock. At the Commissariat Office the shock was severely felt, and indeed it was felt more or less severely all over the city."

At Montego Bay a very slight shock was felt; I happened to be there at the time, but out-of-doors, and therefore did not feel it.

KINGSTON: *Elements of the shock, and notes by Mr. Robert Johnstone*—

"There was a sharp double shock of earthquake at 1.15 p.m. Jan. 14th, lasting in all about 10 seconds—the first shock lasting about 3 seconds with an interval of about 2 seconds between it and the second shock. There was a strong sea-breeze blowing during the day, but there was a temporary lull just before the earthquake."

BAB. COR. AND REDUCED.

	In.
24 hours before	30.061
16 " "	30.047
8 " "	30.043
At time of shock	30.016
8 hours after	30.024
16 " "	30.063
24 " "	30.056

TOTAL MILES OF WIND.

13th day before the shock	66
14th day of	151
15th day after	130

TEMPERATURE OF THE AIR.

	Min.	Mean.	Max.
13th	65.9	74.0	85.1
14th	66.7	74.2	84.5
15th	66.7	75.3	85.4

CLOUDS AND RAIN.

	Clouds. per cent.	Rain Inches.
13th	7	0.00
14th	10	0.00
15th	43	0.00

The usual fall in the barometer about the time of the shock is well marked; but there was not the usual stoppage of the Wind—however it has often occurred that this effect is felt the day before, as in the present instance, or the day after. The temperatures as usual remain unaffected; and the usual clouding-over of the sky afterwards is strongly marked.

On the whole, if we may lay stress upon the temporary lull at the time of the shock, all the usual meteorological changes were fulfilled at the sea-level in Kingston.

But a most important fact is brought to light by the readings taken by Mr. D. Morris at the Cinchona Plantation, 4,850 feet above the sea-level:—the barometer at this elevation was similarly and perhaps even more affected than the barometer in Kingston. Correcting the readings previously given for instrumental error, reducing them to 32°, to the Sea-level, and further correcting them for Diurnal Range, we have—

	Bar. cor. and reduced. Inches.
7. 0 a.m.	30.042
1.18 p.m.	29.989
2.18 “	29.985
3. 0 “	30.006
3.18 “	30.005
4.18 “	30.020

It will be noticed that the result at 7 a.m. agrees with the result at Kingston “8 hours before” the shock, and that the Cinchona barometer must have fallen somewhat more than the Kingston barometer.

Several other light shocks have been reported: one about 10.15 a.m. on the morning of the 14th before the greater shock: another about 3.45 a.m. on the morning of the 25th; another about 2 p.m. on the 29th. The last two are confirmed by the meteorological changes accompanying them.

Information has been received from other places, but sometimes wanting in detail. Mr. Kennedy writes from Holland in the Parish of St. Thomas:—“Three smart shocks of earthquake at about 1.15 p.m. on the 14th, and several undulating movements have been felt at different times since then.”

In conclusion I would point out the great utility and efficiency of the Time Service as shown by the agreement of the reported times of the occurrence of the shock:—the Telegraph Department of the Post Office transmits Time signals to the different stations, so that Kingston Mean Time is disseminated and used all over the Island.

ASTRONOMICAL NOTES.

ECLIPSES IN THE YEAR 1884.

(Kingston Mean Time is employed throughout.)

I. A partial Eclipse of the Sun March 27th invisible in Jamaica.

II. A total Eclipse of the Moon April 10th partly visible in Jamaica. The first contact of the Moon with the penumbra occurs at 3 hr. 35 min. on the morning of April 10th, but the penumbra will not be seen for about 50 min. afterwards; the first contact of the Moon with the shadow occurs at 4 hr. 45 min. a.m.; but the Moon sets as the Sun rises at 5 hr. 49 min. a.m., and the total phase commencing at 5 hr. 53 min. a.m. will not be visible.

III. A partial Eclipse of the Sun April 25th invisible in Jamaica.

IV. A total Eclipse of the Moon October 4th partly visible in Jamaica. The Moon will rise partially eclipsed as the Sun sets at 5 hr. 45 min. p.m. on October 4th—the end of the total phase having occurred 4 min. previously; the last contact of the Moon with the shadow will occur at 6 hr. 42 min. p.m., and the penumbra shadow will be seen for about 15 min. longer.

V. A partial Eclipse of the Sun October 19th invisible in Jamaica.

SUN-SPOTS AND SOLAR RADIATION.

Kempshot; January, 1884.

Mean Time.		Groups of Sun-spots.	Number of Sun-spots.	Combina- tion Number.
Day.	Hour.			
1	21	10	58	119
17	21	6	51	77
23	21	6	23	58
29	22	7	51	87
31	21	8	53	93
Means		7.2	47	88

The mean Combination-number 88 gives 10°.15 as the mean Solar Radiation for January.

MAXWELL HALL.

Kempshot Observatory

February 11th, 1884.



JAMAICA.

MARCH 18, 1884.

No. 38.

WEATHER REPORT

FOR THE MONTH OF

FEBRUARY, 1884.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON.

1884.

METEOROLOGICAL RESULTS FOR FEB., 1884.

KINGSTON :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric pressure ...	30.088	30.008	30.097	30.064
Temperature of the air ...	69° 1	81° 5	70° 7	73° 8
Dew-point ...	63.8	69.4	66.0	66.4
Humidity ...	84	68	85	79
Maximum Temp. ...				83° 6
Minimum Temp. ...				67.0
Range of Temp. ...				16.6
Minimum Temp. on Grass ...				59.1
Direction of the Wind ...				S.E.
Velocity of the Wind in Miles per hour ...				3.9
Percentage of Cloud ...				33

Total Rainfall—0.11 inches.

Average Weather :—Fair.

The highest temperature was 88° 0 recorded on the 9th; the lowest was 62° 3 recorded on the 7th; the extreme range was therefore 25° 7. The lowest temperature on the grass was 55° 9 recorded on the 5th and 7th.

CINCHONA PLANTATION :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric Pressure ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	25.291
Temperature of the air ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	55° 5
Dew-point ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	61.1
Maximum Temperature ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	50.3
Minimum Temperature ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	56.9
Range of Temperature ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	64.3
Direction of the Wind ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	53.0
Velocity of Wind in Miles per hour ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	11.3
Temperature 6 feet under ground ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	E.
	7 a.m. ...	3 p.m. ...	11 p.m. ...	1.7
	7 a.m. ...	3 p.m. ...	11 p.m. ...	61° 5

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level :—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range, elevation about 5,600 feet) the mean maximum and minimum temperatures were 64° 8 and 49° 0 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 85° 0 and 62° 4 respectively.

THE HEALTH OF KINGSTON was above the average, the death-rate being 26.1 per thousand. There were 22 deaths from infantile diseases (not otherwise specified), 11 from Lung-diseases, 1 from fever, 3 from Dysentery and Diarrhoea, and 45 from various diseases and causes, making a total of 82.

THE HEALTH OF MONTEGO BAY during February was very good, according to Mr. S. E. Payne's monthly report to the Sanitary Board; there were a few mild cases of fever and diarrhoea; and 13 deaths occurred, against 12 deaths in January.

THE RAINFALL FOR FEBRUARY, 1884.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October 1883, as Nos. 31 and 35 of the present series of reports. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those stations are

considered for which the average Rainfall has been given in the second columns, so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall returns :—

NORTH-EASTERN DIVISION.

		FEBRUARY.	
		1884.	Average.
		IN.	IN.
Morant Point L. H.	St. Thomas	1.25	2.98
Hordley	...	3.80	...
Holland	...	2.10	...
Leith Hall	...	1.96	...
Potosi	...	...	...
Boston	Portland	...	...
Port Antonio	...	5.08	...
Spring Garden	...	3.12	...
Chepstow	...	9.38	...
Woodstock	...	...	...
Cinchona Plantation	St. Andrew	3.17	2.56
New Haven Gap	...	9.89	...
Newton	...	1.05	...
Tweedside	...	...	...
Stony Hill	...	3.43	2.65
Castleton Gardens	St. Mary	5.19	2.09
Dover	...	3.46	...
Annotto Bay	...	2.70	...
Water Valley	...	0.99	3.68
Quebec	...	...	...
Port Maria	...	2.38	...
New Ramble	...	5.29	4.25
Gayle	...	...	...
Llanrumny	...	5.05	...
Goshen	...	4.92	...
Rio Hoe	St. Ann	...	...
Unity Valley	...	4.51	2.34
Albion	...	...	...
Bradfield	...	6.01	4.57
Drax Hall	...	2.79	4.52
Seville	...	3.33	...
Richmond Estate	...	3.31	...
Llandoverly	...	4.53	...
Means		3.63	3.29

NORTHERN DIVISION.

		FEBRUARY.	
		1884.	Average.
		IN.	IN.
Lillyfield	St. Ann	9.42	...
Homo Castle	...	4.04	...
Richmond Pen	...	2.07	...
Colchis Pen	Trelawny	1.02	...
Mahogany Hall	...	3.35	1.74
Hopewell	...	2.87	2.22
Brampton Bryan	...	1.10	1.64
Bryan Castle	...	1.00	1.94
Nightingale Grove	...	3.32	...
Braco	...	2.35	2.21
Arandia	...	3.27	...
Harmony Hall	...	...	...
Lancaster	...	2.65	2.32
Vale Royal	...	3.31	2.73
Hyde Hall	...	3.62	...
Hyde	...	...	...
Swanswick	...	2.71	...
Long Pond	...	4.66	...
Georgia	...	2.88	2.53
Steelfield	...	4.67	1.77
Etingdon	...	3.62	...
Oxford	...	3.62	...
Cambridge	...	4.15	...
Spring	...	3.13	...
Lottery	...	3.67	2.02

NORTHERN DIVISION *continued.*

		FEBRUARY.	
		1884. |	Average.
		In.	In.
Pembroke	Trelawny	2.05	...
Falmouth	...	...	...
Holland Pen	...	1.49	...
Golden Grove	...	2.60	3.07
Fontabelle	...	3.60	...
Green Park	...	1.90	1.58
Tilston	...	2.68	1.40
Orange Valley	...	1.62	2.57
Kent	...	3.32	...
Dundee	...	3.44	2.57
Gale's Valley	...	3.07	1.97
Hampden	St. James	2.42	...
Greenwood	...	2.56	...
Lima	...	...	...
Content	...	...	...
Gullsbro'	...	4.40	...
Spring Vale	...	6.72	2.04
Latium	...	8.01	1.53
Success	...	1.90	1.81
Cinnamon Hill	...	1.79	...
Rose Hall	...	2.50	...
Running Gut	...	...	...
Tryall	...	2.30	...
Leogan	...	3.81	...
Irwin	...	...	...
Ironshore	...	6.58	...
Providence	...	2.50	...
Montego Bay (Market)	...	2.40	...
Catherine Hall	...	3.55	...
Catherine Mount	...	2.69	1.63
Fairfield	...	3.87	...
Means		3.12	2.06

WEST CENTRAL DIVISION.

		FEBRUARY.	
		1884. |	Average.
		In.	In.
Linstead	St. Catherine	...	...
Worthy Park	...	...	...
Lloyds	...	...	...
Chapelton	Clarendon	...	...
Pennants	...	...	...
Whitney	...	...	...
Cave Valley	St. Ann	1.22	2.66
Hanbury	Manchester	...	...
Mandeville	...	...	...
Marshall's Pen	...	5.58	3.55
Derry	...	...	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	3.12	...
Appleton	...	3.91	...
Maroon Town	St. James	3.92	...
Holland	St. Elizabeth	...	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	8.68	...
Mount Charles	...	...	...
Mount Edgcombe	Westmoreland	...	...
Windsor Forest	...	...	...
Kew Park	...	2.43	...
Hermitage	...	...	...
Hazelyoph	St. James	...	...
Chester Castle	Hanover	4.50	...
Copae	...	5.18	1.88
Burnt Ground	...	8.25	1.98
Haughton Grove	...	4.89	...
Kempshot	St. James	5.91	...
Bandon	...	7.20	...

WEST CENTRAL DIVISION, *continued.*

		FEBRUARY.	
		1884. |	Average.
		In.	In.
Anchovy	St. James	2.72	...
Wiltshire	...	6.10	...
Eden	...	2.56	...
Round Hill	Hanover	2.87	...
Cacoon Castle	...	4.54	1.64
Sod Hall Pen	...	9.75	...
Golden Grove	...	5.93	...
Tryall	...	1.40	1.23
Carawina	Westmoreland	...	...
Sweet River	...	...	...
Shrewsbury	...	...	...
Paradise Pen	...	3.30	...
Roaring River	...	...	...
Fort William	...	3.49	...
Mackfield	...	...	...
Mesopotamia	...	...	...
Cornwall	...	...	...
Windsor (Sav.-la-Mar)	...	2.09	2.59
Fontabelle	...	3.55	...
Frome	...	2.26	...
Belle Isle	...	2.05	...
Grange Hill	...	...	...
Retreat	...	3.05	...
Point	Hanover	...	...
Kew Estate	...	4.79	...
Haughton Court	...	3.19	...
Orange Cove	...	3.39	2.49
Prospect	...	...	...
Haughton Hall	...	...	...
Abingdon	...	3.66	...
Phoenix	...	...	...
Means		3.96	2.25

SOUTHERN DIVISION.

		FEBRUARY.	
		1884. |	Average.
		In.	In.
Albion Hospital	St. Thomas	0.80	...
The Abbey	...	1.51	...
Halberstadt	St. Andrew	1.70	...
Hope Plantation	...	1.44	...
Constant Spring	...	...	...
Cherry Garden	...	2.14	...
King's House	...	1.41	...
Monaltrie	...	1.22	1.21
Public Works Office,	Kingston	0.16	1.02
Palisadoes Plantation	...	0.06	1.36
Plumb Point L. H.	...	0.11	1.01
Ewing's Caymanas	St. Catherine	...	...
Spanish Town	...	...	...
Windsor Park	...	3.20	...
Hog Hole Pen	...	...	...
Headworks, R. C. C.	...	...	...
Cedars	...	...	...
Lodge Estate	...	...	...
Roden Pen	...	...	...
Old Harbour	...	...	...
Springfield	...	2.61	...
Experiment	Clarendon	...	...
The Bog	...	...	...
Greenwich	...	...	...
Yarmouth	...	...	...
Denbigh	...	1.36	1.64
Farm Plantation	Manchester	1.65	...
Great Valley	...	5.74	...
Stone's Hope	...	2.69	...
Pepper	St. Elizabeth	1.40	...
Long Hill	...	...	...
Giltcock Hall	...	...	...

SOUTHERN DIVISION, *continued.*

		FEBRUARY.	
		1884.	Average.
		In.	In.
Santa Cruz	St. Elizabeth	8.69	...
Bloomsbury	...	5.84	...
Black River	...	1.98	1.85
Hodges	...	...	...
Font Hill	...	...	...
Means		0.81	1.35

COMPARATIVE TABLE.

(Based upon the "Average" Stations only.)

		FEBRUARY.	
		1884.	Average.
		In.	In.
North Eastern Division		3.63	3.29
Northern	"	3.12	2.06
West Central	"	3.96	2.25
Southern	"	0.81	1.85
The Island		2.88	2.24

The Rainfall for February was therefore a little

above the average,—a further improvement on the preceding months, and, it was distributed with tolerable uniformity.

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 0.07 and 0.11 inches respectively.

EARTHQUAKE.—A smart shock of earthquake in the district of St. David is reported by Dr. Mannors to have occurred at 9.10 am. on Feb 24th.

SUN-SPOTS AND SOLAR RADIATION.

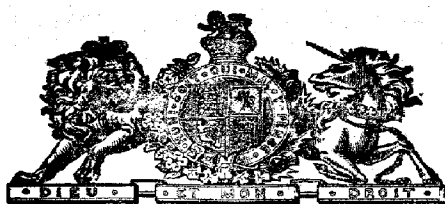
Kempshot; February, 1884.

Mean Time.		Groups of Sun-spots.	Number of Sun-spots.	Combination Number.
Day.	Hour.			
1	21	7	50	87
5	21	6	66	82
6	21	6	41	74
11	21	4	24	48
15	3	5	48	66
22	21	5	35	62
28	21	5	30	60
Means		5.4	42	68

The mean Combination-number 68 gives $9^{\circ}.85$ as the mean Solar Radiation for February.

MAXWELL HALL.

Kempshot Observatory,
12th March, 1884.



JAMAICA.

APRIL 19, 1884.

No. 39.

WEATHER REPORT

FOR THE MONTH OF

MARCH, 1884.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON;
1884.

METEOROLOGICAL RESULTS FOR MARCH, 1884

KINGSTON :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric pressure ...	30.081	30.006	30.091	30.059
Temperature of the air ...	71° 0	81° 3	71° 6	74° 6
Dew-point ...	66.0	70.2	67.2	67.8
Humidity ...	84	70	86	80
Maximum Temp. ...				83° 7
Minimum Temp. ...				67.5
Range of Temp. ...				16.2
Direction of the Wind ...				S.E.
Velocity of the Wind in Miles per hour ...				4.1
Percentage of Cloud ...				29

Total Rainfall—1.14 inches.

Average Weather:—Fair.

The highest temperature was 90° 2 recorded on the 31st ; the lowest was 63° 2 recorded on the 22nd ; the extreme range was therefore 27° 0.

CINCHONA PLANTATION :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric Pressure ...	25.292	25.266	25.266	25.274
Temperature of the air ...	56° 6	62.0	61.7	59.8
Dew-point ...	56.4	65.1	63.6	61.5
Maximum Temperature ...				65.1
Minimum Temperature ...				53.6
Range of Temperature ...				11.5
Direction of the Wind ...				E.
Velocity of Wind in Miles per hour ...				2.4
Temperature 6 feet under ground ...				61.5

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level :—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range elevation about 5,000 feet) the mean maximum and minimum temperatures were 67° 6 and 48° 7 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 90° 6 and 62° 3 respectively.

THE HEALTH OF KINGSTON. (The valuable monthly abstract compiled at the office of the Registrar-General has not reached me as usual.)

THE HEALTH OF MONTEGO BAY during March was very good according to Mr. S. E. Payne's monthly report to the Sanitary Board. There were 14 deaths from various causes; it was stated that Diarrhoea was prevalent in the country, and that a few cases had occurred in the town.

THE RAINFALL FOR MARCH 1884.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October 1883, as Nos. 31 and 33 of the present series of reports. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those stations are considered for which the average Rainfall has been given in the second columns, so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall returns:—

NORTH-EASTERN DIVISION.

MARCH.

1884. | Average.

	1884.	Average.
	In.	In.
Morant Point L. H.	0.95	2.14
Hordley	3.50	...
Holland	1.69	...
Leith Hall	2.54	...
Potosi	...	...
Boston	...	...
Port Antonio	5.81	...
Spring Garden	...	...
Chepstow	...	...
Woodstock	...	...
Cinchona Plantation	2.35	8.83
New Haven Gap	9.29	...
Newton	10.07	...
Tweedside	...	...
Stony Hill	1.15	4.14
Castleton Gardens	4.06	4.73
Dover	2.20	...
Annotto Bay	3.50	...
Water Valley	1.30	4.80
Quebec	...	...
Port Maria	...	...
New Ramble	...	...
Gayle	4.12	...
Llanrumny	1.90	...
Goshen	...	...
Rio Hoe	4.64	...
Unity Valley	4.23	4.97
Albion	4.65	4.18
Bradfield	3.28	5.58
Drax Hall	4.35	4.04
Seville	4.57	...
Richmond Estate	3.02	...
Llandoverly	4.25	...
Means	2.92	4.82

NORTHERN DIVISION.

MARCH.

1884. | Average.

	1884.	Average.
	In.	In.
Lillyfield	8.44	...
Home Castle	3.28	...
Richmond Pen	1.93	...
Colehis Pen	0.08	...
Mahogany Hall	3.10	1.68
Hopewell	2.51	3.06
Brampton Bryan	1.14	2.40
Bryan Castle	0.94	2.34
Nightingale Grove	...	...
Braco	0.85	2.10
Arcadia	1.58	...
Harmony Hall	...	...
Lancaster	1.69	2.56
Vale Royal	1.56	2.66
Hyde Hall	...	...
Hyde	...	...
Swanswick	...	...
Long Pond	...	...
Georgia	1.38	2.42
Steelfield	...	...
Etingdon	...	...
Oxford	...	...
Cambridge	...	...
Spring	1.03	...
Lottery	1.35	2.30
Pembroke	...	...
Falmouth	...	...
Holland Pen	1.31	...
Golden Grove	0.80	5.43
Fontabelle	1.10	...
Green Park	...	...

NORTHERN DIVISION *continued.*

		MARCH.	
		1884.	Average.
		In.	In.
Tilston	Trelawny	1.08	4.59
Orange Valley	...	0.68	2.28
Kent	...	0.61	...
Dundee	...	0.72	3.22
Gale's Valley	...	0.84	2.35
Hampden	St. James	...	...
Greenwood	...	...	...
Lima	...	...	...
Content	...	...	...
Gaillsbro'	...	1.80	...
Spring Vale	...	...	...
Latium	...	1.82	2.44
Success	...	...	...
Cinnamon Hill	...	0.52	...
Rose Hall	...	0.60	...
Running Gut	...	1.00	1.60
Tryall	...	0.71	...
Leogan	...	1.84	...
Irwin	...	...	...
Ironshore	...	0.63	...
Providence	...	0.90	...
Montego Bay (Market)	...	1.64	...
Catherine Hall	...	2.40	...
Catherine Mount	...	2.77	1.77
Fairfield	...	2.10	...
Means		1.42	2.66

WEST CENTRAL DIVISION.

		MARCH.	
		1884.	Average.
		In.	In.
Linstead	St. Catherine	...	...
Worthy Park	...	...	...
Lloyds	...	...	...
Chapelton	Clarendon	...	...
Pennants	...	...	...
Whitney	...	2.13	5.94
Cave Valley	St. Ann	...	...
Hanbury	Manchester	...	...
Mandeville	...	...	...
Marshall's Pen	...	3.86	4.80
Derry	...	...	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	2.49	...
Applenton	...	3.01	...
Maroon Town	St. James	3.35	...
Holland	St. Elizabeth	3.74	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	2.67	...
Mount Charles	...	...	...
Mount Edgecombe	Westmoreland	...	...
Windsor Forest	...	...	...
Kew Park	...	1.78	...
Hermitage	...	1.70	...
Hazelymph	St. James	...	...
Chester Castle	Hanover	1.33	...
Copae	...	2.11	2.74
Burnt Ground	...	3.90	4.35
Haughton Grove	...	0.84	...
Kempshot	St. James	2.43	...
Bandon	...	4.24	...
Anchovy	...	2.76	...
Wiltshire	...	2.96	...
Eden	...	1.91	...
Round Hill	Hanover	2.14	...
Cacoon Castle	...	2.96	2.76

WEST CENTRAL DIVISION, *continued.*

		MARCH.	
		1884.	Average.
		In.	In.
Sod Hall Pen	Hanover	4.50	...
Golden Grove	...	2.19	...
Tryall	...	1.51	0.99
Carawina	Westmoreland	...	...
Sweet River	...	2.36	...
Shrewsbury	...	...	...
Paradise Pen	...	2.50	...
Roaring River	...	...	...
Fort William	...	2.65	...
Mackfield	...	1.17	...
Mesopotamia	...	...	...
Cornwall	...	...	...
Windsor (Sav.-la-Mar)	...	3.03	2.89
Fontabelle	...	2.91	...
Frome	...	2.75	...
Belle Isle	...	2.34	...
Grange Hill	...	...	...
Retreat	...	...	...
Point	...	...	...
Kew Estate	Hanover	3.17	...
Haughton Court	...	3.14	...
Orange Cove	...	3.95	2.64
Prospect	...	...	...
Haughton Hall	...	...	...
Abingdon	...	3.40	...
Means		2.93	3.39

SOUTHERN DIVISION.

		MARCH.	
		1884.	Average.
		In.	In.
Albion Hospital	St. Thomas	1.45	...
The Abbey	...	...	...
Halberstadt	St. Andrew	...	...
Hope Plantation	...	1.01	...
Constant Spring	...	...	...
Cherry Garden	...	1.32	...
King's House	...	0.71	...
Monaltrie	...	0.85	1.60
Public Works Office,	Kingston	0.78	1.47
Palisades Plantation	...	...	...
Plumb Point L. H.	...	1.47	0.94
Ewing's Caymanas	St. Catherine	...	...
Spanish Town	...	...	...
Windsor Park	...	2.30	...
Hog Hole Pen	...	...	...
Headworks, R. C. C.	...	...	...
Cedars	...	...	...
Lodge Estate	...	...	...
Roden Pen	...	...	...
Old Harbour	...	...	...
Springfield	...	1.54	...
Experiment	Clarendon	...	...
The Bog	...	1.23	...
Greenwich	...	...	...
Yarmouth	...	...	...
Denbigh	...	1.75	2.33
Farm Plantation	Manchester	3.92	...
Great Valley	...	4.89	...
Stone's Hope	...	5.48	...
Pepper	St. Elizabeth	3.10	...
Long Hill	...	3.13	...
Gilnock Hall	...	...	...
Santa Cruz	...	3.00	...
Bloomsbury	...	2.11	...
Black River	...	...	...

Hodges	...	2.63	...
Font Hill	...	...	...
Means		1.21	1.58

COMPARATIVE TABLE.
(Based upon the "Average" Stations only.)

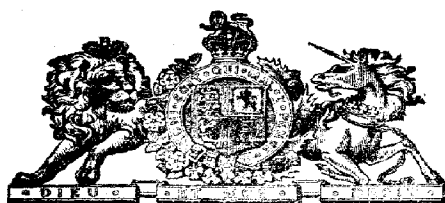
		MARCH.	
		1884.	Average.
		In.	In.
North Eastern Division		2.92	4.82
Northern	"	1.42	2.66
West Central	"	2.93	3.39
Southern	"	1.21	1.58
The Island		2.12	3.11

The Rainfall for March was therefore a little below the average ; and excepting two places in the North-Eastern Division, Newhaven Gap and Newton, it was distributed with tolerable uniformity.

At the Plumb Point Light House the upper gauge is 68 feet above the lower ; these gauges registered 1.17 and 1.47 inches respectively.

MAXWELL HALL.

Kempshot Observatory,
14th April, 1884.



JAMAICA.

MAY 20, 1884.

No. 40.

WEATHER REPORT

FOR THE MONTH OF

A P R I L, 1 8 8 4.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON,
1884.

METEOROLOGICAL RESULTS FOR APRIL, 1884.

KINGSTON :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric pressure ...	30.038	29.959	30.035	30.011
Temperature of the air ...	75°·5	83°·0	73°·1	77°·2
Dew-point ...	69.6	70.8	69.6	70.0
Humidity ...	82	68	89	80
Maximum Temp. ...	...	...	...	84°·3
Minimum Temp. ...	...	...	...	68.9
Range of Temp. ...	...	...	...	15.4
Direction of the Wind ...	...	...	...	S.E.
Velocity of the Wind in Miles per hour ...	...	...	...	2.9
Percentage of Cloud ...	...	...	...	30

Total Rainfall—0.11 inches.

Average Weather :— Fair and dry.

The highest temperature was 89°·1 recorded on the 28th ; the lowest was 64°·7 recorded on the 30th ; the extreme range was therefore 24°·4.

CINCHONA PLANTATION :—

			in.
Barometric Pressure	7 a.m.	...	25.266
"	3 p.m.	...	25.244
Temperature of the air	7 a.m.	...	59°·0
"	3 p.m.	...	63.8
Dew-point	7 a.m.	...	50.5
"	3 p.m.	...	59.1
Maximum Temperature	...	...	66.9
Minimum Temperature	...	...	54.4
Range of Temperature	...	...	12.5
Direction of the Wind	...	...	E.
Velocity of Wind in Miles per hour ...	...	...	2.6
Temperature 6 feet under ground ...	...	...	61.5

Note—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level :—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range elevation about 5,600 feet) the mean maximum and minimum temperatures were 73°·5 and 46°·5 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 93°·1 and 63°·7 respectively.

THE RAINFALL FOR APRIL 1884.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report ; the second columns contain the corresponding average Rainfall according to the Tables published in October 1883, as Nos. 31 and 33 of the present series of reports. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those stations are considered for which the average Rainfall has been given in the second columns, so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall returns :—

NORTH-EASTERN DIVISION.

		APRIL.	
		1884.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	0.34	3.90
Hordley	...	1.04	...
Holland	...	0.00	...
Leith Hall	...	0.48	...
Potosi	...	...	...

NORTH-EASTERN DIVISION, continued.

APRIL.

		1884.	Average.
		In.	In.
Boston	Portland	...	...
Port Antonio	...	...	...
Spring Garden	...	0.00	...
Chepstow	...	0.00	...
Woodstock	...	...	...
Cinchona Plantation	St. Andrew	3.00	9.34
New Haven Gap	...	1.53	...
Newton*	...	1.15	...
Tweedside	...	...	...
Stony Hill	...	3.24	5.76
Castleton Gardens	St. Mary	0.27	6.14
Dover	...	...	...
Annotto Bay	...	...	...
Water Valley	...	...	...
Quebec	...	...	...
Port Maria	...	0.75	...
New Ramble	...	2.15	3.04
Gayle	...	...	...
Llanrunny	...	...	...
Goshen	...	1.46	...
Rio Hoe	St. Ann	0.00	...
Unity Valley	...	0.21	5.20
Albion	...	1.65	4.19
Bradfield	...	0.93	4.11
Drax Hall	...	2.72	2.43
Seville	...	2.30	...
Richmond Estate	...	2.42	...
Llandoverly	...	2.17	...
Means		1.61	4.90

NORTHERN DIVISION.

APRIL.

		1884.	Average.
		In.	In.
Lillyfield†	St. Ann	3.46	...
Home Castle	...	0.74	...
Richmond Pen	...	2.06	...
Colohis Pen	Trelawny	0.74	...
Mahogany Hall	...	1.45	2.43
Hopewell	...	0.35	3.37
Brampton Bryan	...	0.20	2.42
Bryan Castle	...	0.49	2.23
Nightingale Grove	...	0.31	...
Braco	...	0.95	2.38
Arcadia	...	0.55	...
Harmony Hall	...	...	...
Launcester	...	1.65	2.14
Vale Royal	...	0.38	2.80
Hyde Hall	...	...	...
Hyde	...	...	...
Swanswick	...	0.19	...
Long Pond	...	0.37	...
Georgia	...	0.19	2.19
Steelfield	...	...	...
Etingdon	...	...	...
Oxford	...	...	...
Cambridge	...	...	...
Spring	...	0.83	...
Lottery	...	1.47	2.06
Pembroke	...	...	...
Falmouth	...	...	...
Holland Pen	...	...	...
Golden Grove	...	1.20	2.13
Fontabelle	...	1.20	...
Green Park	...	...	...

*The Rainfall at Newton was 1.07 in March instead of 10.07.
†his Rainfall (3.46) was due to a single shower on the morning of the 27th.

NORTHERN DIVISION, *continued.*

		APRIL.	
		1884.	Average.
		In.	In.
Tilston	Trelawny	0.40	2.39
Orange Valley	...	0.66	2.20
Kent	...	0.20	...
Dundee	...	0.24	2.50
Gale's Valley	...	0.40	2.06
Hampden	St. James	0.67	...
Greenwood	...	0.30	...
Lima	...	0.96	...
Content	...	1.34	2.45
Guildbro'	...	0.50	...
Spring Vale	...	...	...
Latium	...	2.33	3.27
Success	...	...	...
Cinnamon Hill	...	0.62	...
Rose Hall	...	0.68	...
Running Gut	...	2.10	1.56
Tryall	...	1.10	...
Leogan	...	2.37	...
Irwin	...	3.41	2.58
Ironshore	...	1.70	...
Providence	...	1.98	...
Montego Bay (Market)	...	1.85	...
Catherine Hall	...	1.80	...
Catherine Mount	...	1.77	2.99
Fairfield	...	1.98	...
Means		1.10	2.43

WEST CENTRAL DIVISION, *continued.*

		APRIL.	
		1884.	Average.
		In.	In.
Sod Hall Pen	Hanover	...	...
Golden Grove	...	...	...
Tryall	...	2.45	2.20
Carawina	Westmoreland	...	...
Sweet River	...	2.25	...
Shrewsbury	...	...	...
Paradise Pen	...	3.20	...
Roaring River	...	...	...
Fort William	...	...	...
Mackfield	...	...	...
Mesopotamia	...	...	...
Cornwall	...	...	...
Windsor (Sav.-la-Mar)	...	2.29	5.11
Fontabelle	...	2.43	...
Frome	...	...	...
Belle Isle	...	...	...
Grange Hill	...	...	...
Retreat	...	3.21	...
Point	...	...	...
Kew Estate	Hanover	...	...
Haughton Court	...	3.30	...
Orange Cove	...	3.28	2.64
Prospect	...	...	...
Haughton Hall	...	...	...
Abingdon	...	3.93	...
Means		2.98	4.59

WEST CENTRAL DIVISION.

		APRIL.	
		1884.	Average.
		In.	In.
Linstead	St. Catherine	2.35	...
Worthy Park	...	...	...
Lloyds	...	...	...
Chapelton	Clarendon	...	...
Pennants	...	...	...
Whitney	...	...	...
Cave Valley	St. Ann	1.76	4.55
Hanbury	Manchester	...	...
Marshall's Pen	...	5.17	6.52
Derry	...	...	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	...	...
Appleton	...	3.01	...
Maroon Town	St. James	3.00	...
Holland	St. Elizabeth	...	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	4.27	...
Mount Charles	...	1.23	...
Mount Edgecombe	Westmoreland	1.22	...
Windsor Forest	...	...	...
Kew Park	...	7.40	...
Hermitage	...	7.68	...
Hazelymph	St. James	...	...
Chester Castle	Hanover	6.55	...
Copae	...	4.33	7.13
Burnt Ground	...	...	...
Haughton Grove	...	5.82	...
Kempshot	St. James	3.00	...
Bandon	...	...	...
Anchovy	...	0.83	...
Wiltshire	...	1.69	...
Eden	...	1.29	...
Round Hill	Hanover	0.98	...
Cocoon Castle	...	1.59	4.01

SOUTHERN DIVISION.

		APRIL.	
		1884.	Average.
		In.	In.
Allibon Hospital	St. Thomas	0.00	...
The Abbey	...	2.00	...
Halberstadt	St. Andrew	...	...
Hope Plantation	...	0.94	...
Constant Spring	...	...	...
Cherry Garden	...	2.90	...
King's House	...	0.90	...
Monaltrie	...	0.42	1.48
Public Works Office,	Kingston	0.10	1.19
Palisades Plantation	...	0.05	1.96
Plumb Point L. H.	...	0.05	1.13
Ewing's Caymanas	St. Catherine	...	...
Spanish Town	...	0.40	...
Windsor Park	...	...	...
Hog Hole Pen	...	0.54	...
Headworks, R. C. C.	...	0.00	...
Cedars	...	...	...
Lodge Estate	...	...	...
Roden Pen	...	...	...
Old Harbour	...	0.48	...
Springfield	...	0.00	...
Experiment	Clarendon	...	...
The Bog	...	0.77	...
Greenwich	...	...	...
Yarmouth	...	...	...
Denbigh	...	...	...
Farm Plantation	Manchester	1.05	...
Great Valley	...	0.92	...
Stone's Hope	...	0.59	...
Pepper	St. Elizabeth	4.75	...
Long Hill	...	3.24	...
Gilnock Hall	...	8.57	...
Santa Cruz	...	...	...
Bloomsbury	...	2.64	...
Black River	...	2.76	3.10

Hodges	St. Elizabeth	1.30	...
Font Hill	...	...	...
	Meads	0.68	1.77

At the Plumb Point Light House the upper gauge is 68 feet above the lower ; these gauges registered 0.03 and 0.05 inches respectively.

COMPARATIVE TABLE.

(Based upon the "Average" Stations only.)

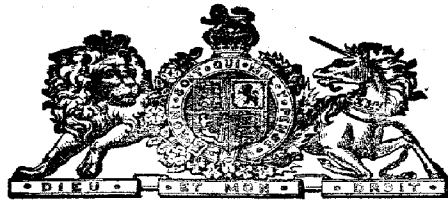
	APRIL.	
	1884.	Average.
	In.	In.
North Eastern Division	1.61	4.90
Northern "	1.10	2.43
West Central "	2.98	4.59
Southern "	0.68	1.77
The Island	1.59	3.42

The Rainfall for April was therefore only one half the average ; at many places no rain fell at all, and at only a few places in the West Central District was there any considerable Rainfall.

During 1882 and 1883, and up to the present time in 1884, the Rainfall has been below the average ; and this long continued effect has dried up springs and wells, so that certain Estates cannot take off their crops for want of water. Neither are the prospects for May encouraging :—four and a half inches being all we may expect as the Island Rainfall.

MAXWELL HALL.

Kempshot Observatory,
12th May, 1884.



JAMAICA.

JUNE 18, 1884.

No. 41.

WEATHER REPORT

FOR THE MONTH OF

M A Y, 1 8 8 4.

Published by Authority.

J A M A I C A :
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON,
1884.

METEOROLOGICAL RESULTS FOR MAY, 1884.

KINGSTON :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric pressure ...	30.016	29.944	30.019	29.998
Temperature of the air ...	78°·7	82°·6	74°·7	78°·7
Dew-point ...	72.5	72.3	72.7	72°·5
Humidity ...	82	71	94	82
Maximum Temp. ...	...	...	...	85°·5
Minimum Temp. ...	...	...	...	71.5
Range of Temp. ...	...	...	...	14.0
Direction of the Wind ...	...	...	...	S.E.
Velocity of the Wind in Miles per hour ...	...	...	...	2.9
Percentage of Cloud ...	...	...	...	52

Total Rainfall—3.09 inches.

Average Weather :—Fair—not much air moving.

The highest temperature was 87°·2 recorded on the 21st; the lowest was 67°·3 recorded on the 3rd; the extreme range was therefore 19°·9.

CINCHONA PLANTATION :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric Pressure ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	25.265
Temperature of the air ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	61°·1
Dew-point ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	63.0
Maximum Temperature ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	54.7
Minimum Temperature ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	59.9
Range of Temperature ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	67.3
Direction of the Wind ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	56.6
Velocity of Wind in Miles per hour ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	10.7
Temperature 6 feet under ground ...	7 a.m. ...	3 p.m. ...	11 p.m. ...	E.

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level :—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,859 "

At New Haven Gap (in the Blue Mountain Range elevation about 5,000 feet) the mean maximum and minimum temperatures were 72°·0 and 53°·4 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 93°·0 and 66°·1 respectively.

THE RAINFALL FOR MAY 1884.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October 1883, as Nos. 31 and 33 of the present series of reports. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those stations are considered for which the average Rainfall has been given in the second columns, so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall returns :—

NORTH-EASTERN DIVISION.

		May.	
		1884.	Average.
	In.	In.	
Morant Point L. H.	St. Thomas	2.71	9.23
Hordley	...	8.40	...
Holland	...	4.80	...
Leith Hall
Petosi

NORTH-EASTERN DIVISION, continued.

MAY.

		1884.	Average.
		In.	In.
Boston	Portland	...	...
Port Antonio	...	4.27	...
Spring Garden	...	...	...
Chepstow	...	...	...
Woodstock	...	...	...
Cinchona Plantation	St. Andrew	6.28	9.72
New Haven Gap	...	6.48	...
Newton	...	5.98	...
Twinedside	...	...	...
Stony Hill	...	9.80	9.39
Castleton Gardens	St. Mary	13.99	12.28
Dover	...	...	...
Annotto Bay	...	6.08	...
Water Valley	...	2.01	9.12
Quebec	...	...	...
Port Maria	...	5.54	...
New Ramble	...	6.60	8.81
Gayle	...	...	...
Llanrumny	...	...	...
Goshen	...	6.37	...
Rio Hoe	St. Ann	6.86	...
Unity Valley	...	7.88	11.15
Albion	...	6.23	8.62
Bradfield	...	4.74	9.50
Drax Hall	...	1.38	7.74
Seville	...	1.46	...
Richmond Estate	...	2.55	...
Llandoverly	...	2.15	...
Means		6.16	9.56

NORTHERN DIVISION.

MAY.

		1884.	Average.
		In.	In.
Lillyfield	St. Ann	5.50	...
Home Castle	...	4.29	...
Richmond Pen	...	7.24	...
Colchis Pen	Trelawny	...	...
Mahegany Hall	...	5.50	8.50
Hopewell	...	6.09	7.39
Brampton Bryan	...	2.20	7.27
Bryan Castle	...	2.01	6.74
Nightingale Grove	...	2.79	...
Bracco	...	1.69	6.74
Arcadia	...	1.58	...
Harmony Hall	...	2.45	5.79
Lancaster	...	2.17	8.86
Vale Royal	...	1.65	8.09
Hyde Hall	...	...	...
Hyde	...	...	...
Swanswick	...	...	...
Long Pond	...	...	...
Georgia	...	1.67	7.99
Steelfield	...	2.72	7.55
Etingdon	...	...	...
Oxford	...	2.98	...
Cambridge	...	5.20	...
Spring	...	3.45	...
Lottory	...	4.93	8.15
Pembroke	...	...	...
Falmouth	...	...	...
Holland Pen	...	5.48	...
Golden Grove	...	7.35	8.37
Fontabelle	...	10.95	...
Green Park	...	...	...

NORTHERN DIVISION, *continued.*

		MAY.	
		1884.	Average.
		In.	In.
Tilston	Trelawny	5.60	8.94
Orange Valley	...	6.46	6.70
Kent	...	5.04	...
Dundee	...	4.14	6.05
Gale's Valley	...	10.30	8.16
Hampden	St. James	...	...
Greenwood	...	4.36	...
Lima	...	...	...
Content	...	...	...
Gullsbro'	...	11.90	...
Spring Vale	...	...	...
Latium	...	8.51	10.34
Success	...	...	...
Cinnamon Hill	...	2.98	...
Rose Hall	...	2.17	...
Running Gut	...	1.60	6.10
Tryall	...	1.88	...
Leogan	...	5.70	...
Irwin	...	4.72	8.93
Ironshore	...	4.17	...
Providence	...	4.71	...
Montego Bay (Market)	...	5.88	...
Catherine Hall	...	7.40	...
Catherine Mount	...	5.97	8.43
Fairfield	...	6.85	...
Means		4.39	7.75

WEST CENTRAL DIVISION.

		MAY.	
		1884.	Average.
		In.	In.
Linstead	St. Catherine	9.12	...
Worthy Park	...	...	...
Lloyds	...	...	...
Chapelton	Clarendon	...	...
Peunants	...	...	...
Whitney	...	...	...
Cave Valley	St. Ann	7.15	11.93
Hanbury	Manchester	9.20	...
Marshall's Pen	...	12.61	12.29
Derry	...	...	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	...	...
Appleton	...	14.34	...
Windsor	Trelawny	15.16	...
Maroon Town*	St. James	15.43	...
Holland	St. Elizabeth	...	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	22.21	...
Mount Charles	...	...	...
Mount Edgecombe	Westmoreland	13.47	...
Windsor Forest	...	...	...
Kew Park	...	12.92	...
Hermitage	...	18.83	...
Hazelymph	St. James	...	...
Chester Castle	Hanover	13.89	...
Copse	...	7.87	11.91
Burnt Ground	...	13.30	15.42
Haughton Grove	...	13.95	...
Kempshot	St. James	8.46	...
Bandon	...	...	...
Anchovy	...	8.97	...
Wiltshire	...	9.49	...
Eden	...	4.04	...
Round Hill	Hanover	6.98	...
Cacaoon Castle	...	13.94	13.42

*Hail Storm on May 21st.

WEST CENTRAL DIVISION, *continued.*

		MAY.	
		1884.	Average.
		In.	In.
Sod Hall Pen	Hanover	15.20	...
Golden Grove	...	17.61	...
Tryall	...	4.13	5.46
Carawina	Westmoreland	...	...
Sweet River	...	8.74	...
Shrewsbury	...	...	...
Paradise Pen	...	10.95	...
Roaring River	...	...	...
Fort William	...	19.06	...
Mackfield	...	19.74	...
Mesopotamia	...	...	...
Cornwall	...	...	...
Windsor (Sav.-la-Mar)	...	7.80	11.06
Fontabelle	...	12.45	...
Frome	...	12.78	...
Belle Isle	...	13.11	...
Grange Hill	...	...	...
Retreat	...	6.54	...
Point	...	...	...
Kew Estate	Hanover	7.18	...
Haughton Court	...	5.13	...
Orange Cove	...	4.92	8.49
Prospect	...	8.89	...
Haughton Hall	...	...	...
Abingdon	...	5.65	...
Means		8.96	11.25

SOUTHERN DIVISION.

		MAY.	
		1884.	Average.
		In.	In.
Albion Hospital	St. Thomas	3.50	...
The Abbey	...	6.10	...
Halberstadt	St. Andrew	0.70	...
Hope Plantation	...	2.18	...
Constant Spring	...	...	...
Cherry Garden	...	6.89	...
King's House	...	3.77	...
Monaltrie	...	2.31	4.92
Public Works Office,	Kingston	2.05	4.82
Palisadoes Plantation	...	2.54	6.60
Plumb Point L. H.	...	2.12	4.64
Ewing's Caymanas	St. Catherine	...	...
Spanish Town	...	2.03	...
Windsor Park	...	2.29	...
Hog Hole Pen	...	2.02	...
Headworks, R. C. C.	...	3.30	...
Cedars	...	...	...
Lodge Estate	...	...	...
Roden Pen	...	...	...
Old Harbour	...	4.12	...
Springfield	...	3.11	...
Experiment	Clarendon	...	...
The Bog	...	...	...
Greenwich	...	...	...
Yarmouth	...	...	...
Denbigh	...	...	...
Farm Plantation	Manchester	5.82	...
Great Valley	...	4.21	...
Stone's Hope	...	6.22	...
Pepper	St. Elizabeth	13.05	...
Long Hill	...	12.60	...
Gilnock Hall	...	...	...
Santa Cruz	...	16.35	...
Bloomsbury	...	14.36	...
Black River	...	8.50	2.68

Hodges	St. Elizabeth	5.09	...
Font Hill	...	...	...
	Means	3.50	4.73

At the Plumb Point Light House the upper guage is 68 feet above the lower; these guages registered 1.91 and 2.12 inches respectively.

COMPARATIVE TABLE.

(Based upon the "Average" Stations only.)

	APRIL	
	1884.	Average.
	In.	In.
North Eastern Division	6.16	9.56
Northern "	4.39	7.75
West Central "	8.96	11.25
Southern "	3.50	4.73
The Island	5.75	8.32

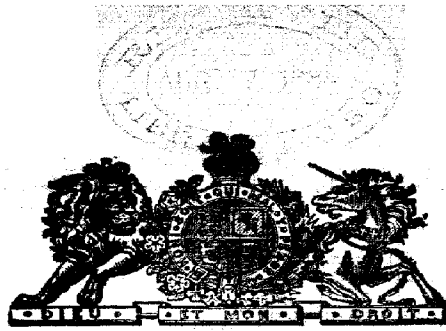
The Rainfall for May was therefore a little more than half the average; but of course it was very unequally distributed. In many places in the West Central Division the Rainfall was equal to the average; Kepp, in that division had the largest fall, namely 22.21 inches; and Halberstadt in the Southern division had the smallest, namely 0.70.

The Forecast for May was 4.50 inches, or an inch and a quarter below the actual Rainfall; but in discussing Rainfall prospects and their verification, allowance must be made for various unknown factors; and generally speaking, a Forecast may be considered satisfactory when within one-fourth of the average Rainfall for the Month under consideration.

In this way we may expect about four inches as the Island Rainfall for the Month of June.

MAXWELL HALL.

Kempshot Observatory,
12th June, 1884.



JAMAICA.

JULY 26, 1884.

No. 42.

WEATHER REPORT

FOR THE MONTH OF

JUNE, 1884.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKES STREET, KINGSTON
1884.

METEOROLOGICAL RESULTS FOR JUNE, 1884

2

NORTH-EASTERN DIVISION, continued.

KINGSTON :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric pressure ...	29.997	29.944	30.015	29.985
Temperature of the air ...	79° 8	84° 1	76° 4	80° 1
Dew-point ...	72.6	73.9	72.8	73° 1
Humidity ...	79	73	89	80
Maximum Temp. ...				86° 8
Minimum Temp. ...				73.3
Range of Temp. ...				13.5
Direction of the Wind ...				S.E.
Velocity of the Wind in Miles per hour ...				3.1
Percentage of Cloud ...				71

Total Rainfall—1.77 inches.

Average Weather :—Cloudy—

The highest temperature was 90° 4 recorded on the 7th ; the lowest was 70° 5 recorded on the 2nd ; the extreme range was therefore 19° 9. *

CINCHONA PLANTATION :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric Pressure ...	25.267	25.258	25.258	25.258
Temperature of the air ...	82° 5	65.9	56.8	66.4
Dew-point ...	56.8	62.9	69.2	62.9
Maximum Temperature ...				69.2
Minimum Temperature ...				56.8
Direction of the Wind ...				E.
Velocity of Wind in Miles per hour ...				1.7
Temperature 8 feet under ground ...				62° 1.

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level :—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range elevation about 5,600 feet) the mean maximum and minimum temperatures were 75° 9 and 54° 6 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 89° 6 and 72° 0 respectively.

THE RAINFALL FOR JUNE 1884.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report ; the second columns contain the corresponding average Rainfall according to the Tables published in October 1883, as Nos. 31 and 32 of the present series of reports. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those stations are considered for which the average Rainfall has been given in the second columns, so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall returns :—

NORTH-EASTERN DIVISION.

		JUNE.
		1884. | Average.
		IN. | IN.
Morant Point L. H.	St. Thomas	6.63 | 6.24
Hordley	...	10.06 | ...
Holland	...	8.24 | ...
Leith Hall	...	... | ...
Potosi	...	... | ...

* A very fine solar halo of diameter 46° with colours particularly well marked, was seen about 1 p. m. on the 7th. A parhelion was seen at 7 a. m. on the 9th.

JUNE.

1884 | Average.

Boston	Portland	...	...
Port Antonio	...	9.18	...
Spring Garden	...	...	...
Chepstow	...	...	...
Cinchona Plantation	St. Andrew	4.12	6.33
New Haven Gap	...	3.12	...
Newton	...	3.82	...
S.E. Tweedside	...	16.12	...
Stony Hill	...	8.12	6.01
Castleton Gardens	St. Mary	13.63	8.24
Dover	...	...	...
Annotto Bay	...	1.80	...
Water Valley	...	...	...
Quebec	...	...	...
Port Maria	...	2.27	...
New Ramble	...	...	...
Gayle	...	...	...
Llanrumny	...	...	...
Goshen	...	...	...
Rio Hoe	St. Ann	7.91	...
Unity Valley	...	6.56	8.70
Albion	...	6.20	5.58
Bradfield	...	4.60	4.86
Drax Hall	...	...	...
Seville	...	4.53	...
Richmond Estate	...	5.23	...
Llandovery	...	5.51	...
Means		7.13	6.57

NORTHERN DIVISION.

JUNE.

1884. | Average.

		IN.	IN.
Lillyfield	St. Ann	9.87	...
Home Castle	...	...	...
Richmond Pen	...	...	...
Colchis Pen	Trelawny	...	...
Mahogany Hall	...	12.04	2.77
Hopewell	...	8.29	3.62
Brampton Bryan	...	4.62	2.65
Bryan Castle	...	5.65	2.43
Nightingale Grove	...	...	...
Braco	...	...	...
Arcadia	...	...	...
Harmony Hall	...	4.61	1.68
Lancaster	...	...	...
Vale Royal	...	...	...
Hyde Hall	...	...	...
Hyde	...	...	...
Swanswick	...	...	...
Long Pond	...	...	...
Georgia	...	...	...
Steelfield	...	6.86	3.87
Etingdon	...	...	...
Oxford	...	6.08	...
Cambridge	...	7.61	...
Spring	...	5.26	...
Lottery	...	...	...
Pembroke	...	...	...
Falmouth	...	...	...
Holland Pen	...	...	...
Golden Grove	...	9.75	5.79
Fontabelle	...	14.42	...
Green Park	...	...	...

NORTHERN DIVISION, continued.

		JUNE	
		1884.	Average.
		IN.	IN.
Tilston	Trelawny	10.00	4.34
Orange Valley	...	7.29	2.80
Kent	...	7.03	...
Dundee	...	7.70	3.26
Gale's Valley	...	11.90	5.66
Hampden	St. James	...	...
Greenwood	...	6.80	...
Lima	...	...	...
Content	...	...	...
Guiltsbro'	...	9.30	...
Spring Vale	...	...	...
Latium	...	...	...
Success	...	...	...
Cinnamon Hill	...	7.71	...
Rose Hall	...	7.76	...
Running Gut	...	5.26	2.32
Tryall	...	4.80	...
Leogan	...	...	...
Irwin	...	...	...
Ironshore	...	6.52	...
Providence	...	7.63	...
Montego Bay (Market)	...	10.35	...
Catherine Hall	...	10.05	...
Catherine Mount	...	8.90	6.55
Fairfield	...	8.96	...
Means		7.91	3.68

WEST CENTRAL DIVISION, continued.

		JUNE	
		1884.	Average.
		IN.	IN.
Sod Hall Pen	Hanover	15.80	...
Golden Grove	...	11.90	...
Tryall	...	9.13	7.98
Carawina	Westmoreland	...	...
Sweet River	...	6.09	...
Shrewsbury	...	...	...
Paradise Pen	...	5.95	...
Roaring River	...	7.99	...
Fort William	...	7.37	...
Mackfield	...	6.96	...
Mesopotamia	...	...	...
Cornwall	...	...	...
Windsor (Sav.-la-Mar)	...	5.05	6.68
Fontabelle	...	9.85	...
Frome	...	7.42	...
Belle Isle	...	7.29	...
Grange Hill	...	11.61	...
Retreat	...	5.47	...
Point	...	...	...
Kew Estate	Hanover	8.82	...
Haughton Court	...	6.17	...
Orange Cove	...	...	...
Prospect	...	...	...
Haughton Hall	...	...	...
Abingdon	...	17.58	...
Means		9.93.	8.88

WEST CENTRAL DIVISION.

		JUNE	
		1884.	Average.
		IN.	IN.
Linstead	St. Catherine	7.82	...
Worthy Park	...	...	...
Lloyds	...	...	...
Chapelton	Clarendon	...	...
Pennants	...	...	...
Whitney	...	...	...
Cave Valley	St. Ann	...	...
Hanbury	Manchester	...	...
Marshall's Pen	...	7.82	6.80
Derry	...	...	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	8.44	...
Appleton	...	12.20	...
Windsor	Trelawny	17.54	...
Maroon Town	St. James	14.67	...
Holland	St. Elizabeth	...	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	9.48	...
Mount Charles	...	6.46	...
Mount Edgecombe	Westmoreland	6.01	...
Windsor Forest	...	9.57	...
Kew Park	...	10.20	...
Hermitage	...	9.86	...
Hazelymph	St. James	...	...
Chester Castle	Hanover	9.96	...
Copae	...	12.76	8.85
Burnt Ground	...	16.05	10.40
Haughton Grove	...	9.65	...
Kempshot	St. James	12.19	...
Bandon	...	...	...
Anchovy	...	9.87	...
Wiltshire	...	11.13	...
Eden	...	9.61	...
Round Hill	Hanover	9.20	...
Cacoon Castle	...	8.75	10.51

SOUTHERN DIVISION.

		JUNE	
		1884.	Average.
		IN.	IN.
Albion Hospital	St. Thomas	4.02	...
The Abbey	...	5.45	...
Halberstadt	St. Andrew	3.43	...
Hope Plantation	...	5.16	...
Constant Spring	...	...	...
Cherry Garden	...	12.74	...
King's House	...	6.89	...
Monaltre	...	2.74	3.53
Public Works Office,	Kingston	1.78	3.32
Palisadoes Plantation	...	1.72	6.55
Plumb Point L. H.	...	2.26	3.79
Ewing's Caymanas	St. Catherine	...	...
Spanish Town	...	1.99	...
Windsor Park	...	1.89	...
Hog Hole Pen	...	3.31	...
Headworks, R. C. C.	...	3.03	...
Cedars	...	...	...
Lodge Estate	...	...	...
Roden Pen	...	...	...
Old Harbour	...	1.55	...
Springfield	...	2.21	...
Experiment	Clarendon	...	...
The Bog	...	2.31	...
Greenwich	...	...	...
Yarmouth	...	...	...
Denbigh	...	...	...
Farm Plantation	Manchester	3.77	...
Great Valley	...	6.27	...
Stone's Hope	...	4.83	...
Pepper	St. Elizabeth	5.55	...
Long Hill	...	6.01	...
Gilnock Hall	...	8.88	...
Santa Cruz	...	7.51	...
Bloomsbury	...	7.78	...
Black River	...	5.83	2.68

Hodges	St. Elizabeth	...	...
Font Hill	...	...	...
	Means	2.87	3.98

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 1.78 and 2.26 inches respectively.

COMPARATIVE TABLE.
(Based upon the "Average" Stations only.)

		JUNE.	
		1884.	Average.
		In.	In.
North Eastern Division		7.13	6.57
Northern	"	7.91	3.68
West Central	"	9.93	8.88
Southern	"	2.87	3.98
The Island		6.96	5.78

The Rainfall for June was therefore an inch above the average; and this was due to the rains in the Northern Division, which were abundant and fairly distributed. Heavy rains fell in the West Central Division, especially along a narrow line from Windsor in Trelawny, through Maroon Town in St. James and Burnt Ground in Hanover, to Abingdon near Green Island. The Rainfall along this line was about 16 inches. In the Southern Division the Rainfall was less than the average and fairly distributed, excepting Cherry Garden, and respecting the register at this place for June, Mr. Marescaux writes—"I call your attention to the fact that on Tuesday 24th June between the hours of one and five p.m. there fell the enormous amount of 7.73 inches: I fancy that there cannot be many instances on record of so heavy a fall in so short a time." At King's House which is about two miles below me the gauge only recorded about 1.50; and at Constant Spring which is about two miles NE. there was about 6.50 inches."

* Report No. 29. Kempshot, July 4th 1883; 5.08 inches fell in one hour.

Report No. 31. Denbigh, June 5th 1868; 24 inches fell that day.

4
After the arrival of the second post this month (July 4th) at Montego Bay, the Rainfall for June was roughly estimated for each Division, and telegraphed to Kingston for publication:—the estimates gave five inches as the forecast for July.

STORM WARNINGS.

During the coming Hurricane season (August, September, October, and the first part of November) it is proposed to warn Kingston and the Island generally of all Storms and Barometric depressions which may pass within range of Jamaica, according to the system adopted in 1882 and 1883.

A daily telegram will be passed round the Island, stating the weather in Kingston at 7 a.m., and giving further information when necessary; this telegram enables the Out-ports to compare their readings with Kingston; and it prevents the general circulation of false alarms.

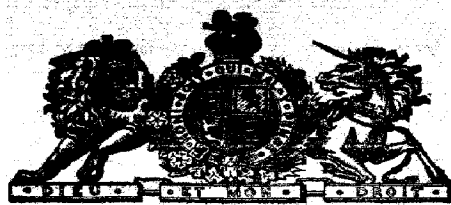
In case of approaching danger, special notices will be posted in Kingston at the Commercial Exchange, at Mr. John McDonald's store in Harbour Street, and at the Colonial Secretary's Office; all these notices will be signed by Mr. Robert Johnstone who has charge of the instruments in Kingston; and the notice will also be telegraphed round the Island. The danger flags of the U. S. signal service will be hoisted at the Commercial Exchange and the Colonial Secretary's Office; these flags are red with black squares in their centres.

Santiago de Cuba will exchange telegrams with Jamaica whenever the weather may be disturbed; so that Kingston will be supported on the one side by the Kempshot Observatory, and on the other side by Santiago de Cuba; and in return for this cooperation and consequent expense, Santiago de Cuba will receive from time to time such information or warning as Jamaica may be able to give.

MAXWELL HALL.

Kempshot Observatory,

12th July, 1884.



JAMAICA.

AUGUST 25, 1884.

No. 43.

WEATHER REPORT

FOR THE MONTH OF

JULY, 1884.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUNE STREET, KINGSTON
1884.

METEOROLOGICAL RESULTS FOR JULY, 1884

KINGSTON:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric pressure ...	30.034	29.966	30.046	30.015
Temperature of the air ...	80°·8	86°·7	78°·1	81°·8
Dew-point ...	70°·9	72·9	71·6	71°·8
Humidity ...	73	64	81	73
Maximum Temp. ...	...	...	...	88°·8
Minimum Temp. ...	...	...	...	74·1
Range of Temp. ...	...	...	...	14·7
Direction of the Wind ...	...	...	...	S.E. by E.
Velocity of the Wind in Miles per hour ...	...	...	...	4·3
Percentage of Cloud ...	...	...	...	52

Total Rainfall—0·69 inches.

Average Weather:—Fair and dry.

The highest temperature was 91°·6 recorded on the 17th; the lowest was 72°·2 recorded on the 29th; the extreme range was therefore 19°·4.

CINCHONA PLANTATION:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric Pressure ...	7 a.m.	...	...	25·303
" ...	3 p.m.	...	...	25·291
Temperature of the air ...	7 a.m.	...	...	63°·3
" ...	3 p.m.	...	...	68·7
Dew-point ...	7 a.m.	...	...	56·7
" ...	3 p.m.	...	...	62·5
Maximum Temperature ...	...	...	...	72·4
Minimum Temperature ...	...	...	...	59·2
Direction of the Wind ...	...	...	...	E.
Velocity of Wind in Miles per hour ...	...	...	...	4·0
Temperature 6 feet under ground ...	...	...	...	63°·5

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32", that of Kingston being further reduced to the sea-level. The thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level:—

Kingston (Rae Town) 5 feet
Cinchona Plantation 4,850 "

At New Haven Gap (in the Blue Mountain Range elevation about 5,600 feet) the mean maximum and minimum temperatures were 75° and 55° respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 93°·6 and 71°·9 respectively.

THE RAINFALL FOR JULY, 1884.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October 1883, as Nos. 31 and 33 of the present series of reports. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those stations are considered for which the average Rainfall has been given in the second columns, so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall returns:—

NORTH-EASTERN DIVISION.

		JULY.	
		1884.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	1·43	3·48
Hordley	...	4·84	...
Holland	...	2·37	...
Leith Hall	...	...	...
Potosi	...	...	...
Boston	Portland	...	...
Port Antonio	...	7·31	...
Spring Garden	...	...	...
Chepstow	...	...	...

NORTH-EASTERN DIVISION, continued.

		JULY.	
		1884.	Average.
		In.	In.
Cinchona Plantation	St. Andrew	0·47	4·78
New Haven Gap	...	0·79	...
Newton	...	0·57	...
Twocdside	...	...	...
Stony Hill	...	3·19	4·80
Castleton Gardens	St. Mary	7·58	7·32
Dover	...	...	...
Annotto Bay	...	1·20	...
Water Valley	...	0·46	4·43
Quebec	...	1·31	...
Port Maria	...	0·50	...
New Ramble	...	1·63	3·65
Gayle	...	...	...
Llanrumny	...	...	...
Goshien	...	2·35	...
Rio Hoe	St. Ann	0·25	...
Unity Valley	...	2·12	6·91
Albion	...	2·34	4·13
Bradfield	...	0·42	4·28
Drax Hall	...	...	...
Seville	...	0·53	...
Richmond Estate	...	0·50	...
Llandevory	...	0·77	...
Means		2·18	4·86

NORTHERN DIVISION.

		JULY.	
		1884.	Average.
		In.	In.
Lillyfield	St. Ann	0·94	...
Home Castle	...	...	...
Richmond Pen	...	...	...
Colchis Pen	Trelawny	1·52	5·04
Mahogany Hall	...	1·95	4·16
Hopewell	...	0·85	3·37
Brampton Bryan	...	1·84	2·46
Bryan Castle	...	...	...
Nightingale Grove	...	...	...
Braco	...	...	...
Arcadia	...	...	...
Harmony Hall	...	1·41	1·86
Lancaster	...	...	...
Vale Royal	...	...	...
Hyde Hall	...	...	...
Hyde	...	...	...
Swanswick	...	...	...
Long Pond	...	...	...
Georgia	...	...	...
Steelhead	...	0·77	3·07
Etingdon	...	...	...
Oxford	...	0·12	...
Cambridge	...	0·57	...
Spring	...	0·65	...
Lottery	...	...	...
Pembroke	...	...	...
Falmouth	...	...	...
Holland Pen	...	...	...
Golden Grove	...	1·20	5·70
Fontabelle	...	0·80	...
Green Park	Trelawny	...	...
Tilston	...	1·52	4·44
Orange Valley	...	0·30	2·84
Kent	...	0·00	...
Dundee	...	1·32	3·91
Gale's Valley	...	1·46	5·30

NORTHERN DIVISION, *continued.*

		JULY.	
		1884.	Average.
		IN.	IN.
Hampden	St. James	...	...
Greenwood	...	1.50	...
Lima	...	...	...
Content	...	...	...
Guilsbro'	...	1.80	...
Spring Vale	...	...	...
Latium	...	2.00	5.70
Success	...	...	...
Cinnamon Hill	...	0.00	...
Rose Hall	...	0.00	...
Running Gut	...	...	...
Tryall	...	0.10	...
Leogan	...	...	...
Irwin	...	...	...
Ironshore	...	0.69	...
Providence	...	...	...
Montego Bay (Market)	...	1.07	...
Catherine Hall	...	0.00	...
Catherine Mount	...	1.51	4.89
Fairfield	...	1.66	...
Means		1.86	4.06

WEST CENTRAL DIVISION.

		JULY.	
		1884.	Average.
		IN.	IN.
Linstead	St. Catherine	5.12	...
Worthy Park	...	...	...
Lloyds	...	...	...
Chapelton	Clarendon	...	...
Pennants	...	...	...
Whitney	...	1.86	8.65
Cave Valley	St. Ann	...	...
Hanbury	Manchester	...	...
Marshall's Pen	...	4.22	7.23
Mandeville	...	1.22	6.08
Derry	...	...	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	4.56	...
Appleton	...	8.54	...
Windsor	Trelawny	2.39	...
Maroon Town*	St. James	9.01	...
Holland	St. Elizabeth	...	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	5.91	...
Mount Charles	...	2.72	...
Mount Edgecombe	Westmoreland	4.97	...
Windsor Forest	...	...	...
Kew Park	...	5.58	...
Hermitage	...	7.26	...
Hazelymph	St. James	...	...
Chester Castle	Hanover	7.24	...
Copse	...	2.67	8.66
Burnt Ground	...	2.50	9.18
Haughton Grove	...	6.45	...
Kempshot	St. James	3.55	...
Bandon	...	...	...
Anchovy	...	4.03	...
Wiltshire	...	4.66	...
Eden	...	3.94	...
Round Hill	Hanover	3.25	...
Cacoon Castle	...	4.69	7.75
Sod Hall Pen	Hanover	3.00	...
Golden Grove	...	5.11	...
Tryall	...	3.49	5.56

WEST CENTRAL DIVISION, *continued.*

		JULY.	
		1884.	Average.
		IN.	IN.
Carawina	Westmoreland	...	...
Sweet River	...	4.09	...
Shrewsbury	...	...	...
Paradise Pen	...	3.05	...
Roaring River	...	...	...
Fort William	...	...	...
Mackfield	...	...	...
Mesopotamia	...	...	...
Cornwall	...	...	...
Windsor (Sav.-la-Mar)	...	2.07	7.59
Fontabelle	...	6.88	...
Frome	...	...	...
Belle Isle	...	...	...
Grange Hill	...	...	...
Retreat	...	3.73	...
Point	...	...	...
Kew Estate	Hanover	...	...
Haughton Court	...	5.80	...
Orange Cove	...	...	...
Prospect	...	...	...
Haughton Hall	...	...	...
Abingdon	...	12.05	...
Means		2.84	7.59

SOUTHERN DIVISION.

		JULY.	
		1884.	Average.
		IN.	IN.
Albion Hospital	St. Thomas	1.50	...
The Abbey	...	2.73	...
Halberstadt	St. Andrew	1.80	...
Hope Reservoirs	...	0.51	3.35
Hope Plantation	...	0.81	...
Constant Spring	...	...	...
Cherry Garden	...	...	...
King's House	...	1.08	...
Monaltrie	...	0.97	2.73
Public Works Office,	Kingston	0.72	2.03
Patisadoes Plantation	...	0.66	3.92
Plumb Point L. H.	...	0.82	2.17
Ewing's Caymanas	St. Catherine	...	...
Spanish Town	...	1.24	...
Windsor Park	...	0.82	...
Hog Hole Pen	...	1.60	...
Headworks, R. C. C.	...	1.29	...
Cedars	...	...	...
Lodge Estate	...	...	...
Roden Pen	...	1.86	...
Old Harbour	...	1.59	...
Springfield	...	...	...
Experiment	Clarendon	...	...
The Bog	...	0.66	...
Greenwich	...	...	...
Yarmouth	...	...	...
Denbigh	...	...	...
Farm Plantation	Manchester	2.52	...
Great Valley	...	...	...
Stone's Hope	...	2.27	...
Pepper	St. Elizabeth	...	...
Long Hill	...	1.32	...
Gilnock Hall	...	2.75	...
Santa Cruz	...	2.00	...
Bloomsbury	...	8.77	...
Black River	...	3.08	5.16
Hodges	...	1.60	...
Font Hill	...	...	...
Means		1.13	3.23

* Hail-storms on the 25th and 27th:—large hail-stones.

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 0.78 and 0.82 inches respectively.

COMPARATIVE TABLE.
(Based upon the "Average" Stations only.)
JULY.

	1884. | Average.	
	In.	In.
North Eastern Division	2.18	4.86
Northern "	1.36	4.06
West Central "	2.84	7.59
Southern "	1.13	3.23
The Island	1.88	4.94

The Rainfall for July was therefore much below the average, and the drought was severely felt in seve-

ral places. Mr. Morris, the Director of Public Gardens and Plantations, writes of hot scorching days at the Cinchona Plantation, and of an absolute and general drought.

ISLAND RAINFALL, 1884.

Month.	Forecast.	Rainfall recorded.
	In.	In.
May	4.50	5.75
June	4.00	6.96
July	5.00	1.88
Sum	13.50	14.59
August	4.00	...

MAXWELL HALL.

Kempsht Observatory,
16th August, 1884.



JAMAICA.

SEPTEMBER 26, 1884.

No. 44.

WEATHER REPORT

FOR THE MONTH OF

AUGUST, 1884.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON.
1884.

METEOROLOGICAL RESULTS FOR AUGUST, 1884
Kingston :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	<i>in.</i>	<i>in.</i>	<i>in.</i>	<i>in.</i>
Barometric pressure ...	30.001	29.926	30.015	29.981
Temperature of the air ...	78°·6	85°·1	77°·2	80°·3
Dew-point ...	71.6	73.8	72.4	72°·6
Humidity ...	80	69	86	78
Maximum Temp. ...				88°·4
Minimum Temp. ...				73.5
Range of Temp. ...				14.9
Direction of the Wind ...				S.E.
Velocity of the Wind in Miles per hour ...				3.0
Percentage of Cloud ...				64

Total Rainfall—4.79 inches.

Average Weather:—Cloudy.

The highest temperature was 91°·1 recorded on the 11th and 18th; the lowest was 70°·8 recorded on the 8th; the extreme range was therefore 20°·3.

CINCHONA PLANTATION :—

	7 a.m.	...	25.276	<i>in.</i>
Barometric Pressure	3 p.m.	...	25.251	
Temperature of the air	7 a.m.	...	63°·4	
"	3 p.m.	...	66.9	
Dew-point	7 a.m.	...	57.6	
"	3 p.m.	...	62.9	
Maximum Temperature		...	71.5	
Minimum Temperature		...	58.0	
Direction of the Wind			E.	
Velocity of Wind in Miles per hour			1.8	
Temperature 6 feet under ground			65°·5	

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32° that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level :—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range elevation about 5,000 feet) the mean maximum and minimum temperatures were 70°·6 and 56°·1 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 91°·9 and 70°·0 respectively.

THE RAINFALL FOR AUGUST, 1884.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October 1883, as Nos. 31 and 33 of the present series of reports. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those stations are considered for which the average Rainfall has been given in the second columns, so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall returns :—

NORTH-EASTERN DIVISION.

		August.	
		1884.	Average.
		<i>in.</i>	<i>in.</i>
Morant Point L. II	St. Thomas	5.36	5.46
Hordley	...	9.84	...
Holland	...	6.66	...
Leith Hall	...	...	...
Potosi	...	...	...
Boston	Portland	...	...
Port Antonio	...	11.05	...
Spring Garden	...	...	...

* On the 20th, 2.64 inches of rain fell between 3.30 and 4.30 p.m.—in the lower part of Kingston hill fell.

NORTH-EASTERN DIVISION, continued.

		August.	
		1884.	Average.
		<i>in.</i>	<i>in.</i>
Chepstow	Portland	...	...
Cinchona Plantation	St. Andrew	2.31	8.18
New Haven Gap	...	1.53	...
Newton	...	1.01	...
Tweedside	...	8.97	...
Stony Hill	...	9.34	12.66
Castleton Gardens	St. Mary	8.81	10.48
Dover	...	...	...
Annotto Bay	...	...	...
Water Valley	...	0.43	4.24
Quebec	...	1.02	...
Port Maria	...	1.89	...
New Ramble	...	0.72	5.69
Gayle	...	...	...
Llanurmy	...	...	...
Goshen	...	3.45	...
Rio Hoe	St. Ann	3.89	...
Unity Valley	...	5.61	5.33
Albion	...	2.93	5.85
Bradfield	...	2.64	5.05
Drax Hall	...	1.71	3.81
Seville	...	0.62	...
Richmond Estate	...	0.49	...
Llandoverly	...	0.52	...
Means		3.99	6.68

NORTHERN DIVISION.

		August.	
		1884.	Average.
		<i>in.</i>	<i>in.</i>
Lillyfield	St. Ann	4.68	...
Home Castle	...	2.02	...
Richmond Pen	...	5.87	...
Colchis Pen	Trelawny	2.42	...
Mahogany Hall	...	6.35	6.34
Hopewell	...	5.00	5.50
Brampton Bryan	...	...	...
Bryan Castle	...	...	...
Nightingale Grove	...	1.75	...
Braco	...	1.08	3.88
Arcadia	...	1.95	...
Harmony Hall	...	1.20	2.82
Lancaster	...	1.94	3.87
Vale Royal	...	1.94	5.44
Hyde Hall	...	...	...
Hyde	...	3.78	7.12
Swanswick	...	...	...
Long Pond	...	...	...
Georgia	...	1.63	4.64
Steelfield	...	1.85	4.66
Etingdon	...	...	...
Oxford	...	1.14	...
Cambridge	...	2.27	...
Spring	...	1.10	...
Lottery	...	2.61	3.96
Pembroke	...	1.60	...
Falmouth	...	...	...
Holland Pen	...	1.50	...
Golden Grove	...	4.70	3.00
Fontabelle	...	...	...
Green Park	...	3.10	3.79
Tilston	...	5.42	5.94
Orange Valley	...	2.92	3.57
Kent	...	2.85	...
Dundee	...	4.03	5.36
Gale's Valley	...	6.30	6.88
Hampden	St. James	...	...
Bellfield	...	4.35	...

NORTHERN DIVISION, *continued*.

		AUGUST.	
		1884.	Average.
	In.	In.	
Greenwood	St. James	3.01	...
Lima
Content
Guildbro'	...	5.70	...
Spring Vale	...	12.39	12.84
Latium	...	10.20	8.67
Success
Cinnamon Hill	...	1.04	...
Rose Hall	...	0.85	...
Running Gut	...	0.90	2.33
Tryall	...	1.80	...
Leogan
Friendship	...	6.47	...
Irwin	...	6.49	6.40
Ironshore	...	2.80	...
Providence	...	3.50	...
Montego Bay (Market)
Catherine Hall	...	5.40	...
Catherine Mount	...	5.54	8.31
Fairfield	...	6.86	...
Means		4.26	5.49

WEST CENTRAL DIVISION.

		AUGUST.	
		1884.	Average.
	In.	In.	
Linstead	St. Catherine	8.25	...
Worthy Park	...	...	...
Lloyds	...	...	...
Chapelton	Clarendon	...	...
Pennants	...	...	...
Whitney	...	7.26	11.86
Cave Valley	St. Ann	5.87	8.68
Hanbury	Manchester	...	...
Marshall's Pen	...	6.91	10.08
Mandeville	...	5.44	10.60
Derry	...	...	...
Bogue	St. Elizabeth	...	...
Barton Isles	...	...	...
Appleton	...	11.95	...
Windsor	Trelawny	11.80	...
Maroon Town	St. James	17.54	...
Holland	St. Elizabeth	...	...
Y.S.	...	...	...
Ipswich	...	...	...
Kepp	...	13.02	...
Mount Charles	...	...	...
Mount Edgecombe	Westmoreland	9.24	...
Windsor Forest	...	...	...
Woodstock	...	11.49	...
Kew Park	...	11.36	...
Hermitage	...	12.90	...
Hazelymph	St. James	...	...
Chester Castle	Hanover	12.84	...
Copse	...	7.60	12.70
Barnt Ground	...	8.70	13.66
Haughton Grove	...	12.40	...
Kempshot	St. James	9.82	...
Bandon	...	...	...
Anchovy	...	8.26	...
Wiltshire	...	6.64	...
Eden	...	6.59	...
Round Hill	Hanover	4.89	...
Cacoon Castle	...	9.23	10.86
Sod Hall Pen	...	12.20	...
Golden Grove	...	11.86	...
Tryall	...	5.75	6.06
Carawina	Westmoreland	...	...
Sweet River	...	10.45	...

WEST CENTRAL DIVISION, *continued*.

		AUGUST.	
		1884.	Average.
	In.	In.	
Shrewsbury	Westmoreland	14.92	...
Paradise Pen	...	9.60	...
Roaring River
Fort William
Mackfield
Mesopotamia
Cornwall
Windsor (Sav.-la-Mar)	...	8.04	7.17
Fontabelle*	...	11.44	...
Frome
Belle Isle
Grange Hill	...	12.70	...
Point
Kew Estate	Hanover	...	...
Haughton Court	...	4.08	...
Orange Cove	...	1.63	7.45
Prospect
Haughton Hall
Abingdon
Retreat	...	9.40	...
Whitehall	...	11.31	...
Means		6.64	9.91

SOUTHERN DIVISION.

		AUGUST.	
		1884.	Average.
	In.	In.	
Albion Hospital	St. Thomas	4.00	...
The Abbey	...	4.50	...
Halberstadt	St. Andrew	2.10*	...
Hope Reservoirs	...	4.24	8.13
Hope Plantation	...	4.27	...
Constant Spring	...	...	...
Cherry Garden	...	3.67	...
King's House	...	3.42	...
Monaltrie	...	5.12	6.36
Public Works Office,	Kingston	3.70	6.01
Palisades Plantation	...	1.96	8.29
Plumb Point L. H.	...	2.42	5.32
Ewing's Caymanas	St. Catherine	...	...
Spanish Town	...	1.33	...
Windsor Park	...	0.92	...
Hog Hole Pen	...	2.00	...
Headworks, R. C. C.	...	2.48	...
Cedars	...	...	...
Lodge Estate	...	...	...
Roden Pen	...	0.26	...
Old Harbour	...	2.62	...
Springfield	...	1.48	...
Experiment	Clarendon	...	...
The Bog	...	...	...
Greenwich	...	...	...
Yarmouth	...	...	...
Denbigh	...	...	...
Farm Plantation	Manchester	...	...
Great Valley	...	...	...
Stone's Hope	...	2.35	...
Pepper	St. Elizabeth	6.57	...
Long Hill	...	4.32	...
Gilnock Hall	...	10.25	...
Santa Cruz	...	...	...
Bloomsbury	...	13.49	...
Black River	...	5.88	7.21
Hodges	...	5.72	...
Font Hill	...	...	...
Means		3.88	6.88

* August 3rd—3.50 inches fell in 45 minutes.

At the Plumb Point Light House the upper gauge is 68 feet above the lower ; these gauges registered 1.94 and 2.42 inches respectively.

COMPARATIVE TABLE.

(Based upon the "Average" Stations only.)

	August.	
	1884.	Average.
	In.	In.
North Eastern Division	3.99	6.68
Northern "	4.26	5.49
West Central "	6.64	9.91
Southern "	3.88	6.88
The Island	4.69	7.24

The Rainfall for August was therefore still below the average, although there was a great improvement on the preceding month. The distribution was very irregular.

But the want of water is still felt at places. At Halbertstadt, in the Port Royal Mountains, springs are dry which have flowed constantly since 1841.

Among the same mountains Dr. Manners reports a smart shock of Earthquake at 6.30 a.m. on August 1st;

and Dr. Cargill writes of a most brilliant Meteor seen at 8 p.m. on August 13th.

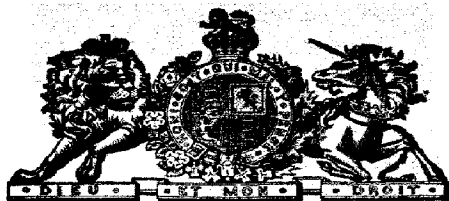
Mr. Morris, the Director of Public Gardens and Plantations, writes that proper screens for the thermometers have been placed at King's House and at New Haven Gap; that the readings with the screens commenced on the 1st September and the middle of August respectively; and that it is proposed to erect another screen on the Blue Mountain Peak. The extreme monthly maximum and minimum temperatures on the Peak would be both interesting and valuable to Science.

ISLAND RAINFALL, 1884.

Month.	Forecast.	Rainfall recorded.
	In.	In.
May	4.50	5.75
June	4.00	6.96
July	5.00	1.88
August	4.00	4.69
Sum	17.50	19.28
September	6.00	...

MAIWEILL HALL.

Kempshot Observatory,
16th September, 1884.



JAMAICA.

OCTOBER 18, 1884.

No. 45.

WEATHER REPORT

FOR THE MONTH OF

SEPTEMBER 1884.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON
1884.

METEOROLOGICAL RESULTS FOR SEPT., 1884.

KINGSTON :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric pressure ...	29.998	29.923	30.011	29.976
Temperature of the air ...	78°.4	85°.4	77°.2	80°.3
Dew-point ...	71.8	75.0	72.7	73.2
Humidity ...	80	72	86	79
Maximum Temp. ...	...	...	...	85°.7
Minimum Temp. ...	...	...	...	74.0
Range of Temp. ...	...	...	...	14.7
Direction of the Wind ...	...	...	...	S.E.
Velocity of the Wind in Miles per hour ...	...	...	...	3.0
Percentage of Cloud ...	...	...	...	65

Total Rainfall—3.33 inches.

Average Weather :—Cloudy.

The highest temperature was 92°.7 recorded on the 18th; the lowest was 71°.9 recorded on the 10th; the extreme range was therefore 20°.8.

CINCHONA PLANTATION :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric Pressure ...	25.272	25.244	25.233	25.249
Temperature of the air ...	63°.3	67.5	67.0	66.3
Dew-point ...	67.0	61.8	61.8	63.5
Maximum Temperature ...	...	...	...	71.3
Minimum Temperature ...	...	...	...	58.4
Direction of the Wind ...	...	...	...	E.
Velocity of Wind in Miles per hour ...	...	...	...	3
Temperature 6 feet below ground ...	...	...	...	63.5

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level :—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range elevation about 5,600 feet) the mean maximum and minimum temperatures were 73°.0 and 56°.9 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 90°.7 and 75°.4 respectively.

RAINFALL FOR SEPTEMBER 1884.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October 1883, as Nos. 31 and 33 of the present series of reports. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those stations are considered for which the average Rainfall has been given in the second columns, so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall returns :—

NORTH-EASTERN DIVISION.

SEPTEMBER.

	1884.	Average.
	In.	In.
Morant Point L. H.	11.57	7.64
St. Thomas	15.09	...
Hordley	12.27	...
Holland	16.70	...
Elmwood	13.69	...
Port Antonio	5.09	13.21
Cinchona Plantation	4.00	...
St. Andrew	...	...
New Haven Gap	...	...
Newton	...	...
Twecdside	...	...
Stony Hill	7.12	10.26
Castleton Gardens	6.77	11.22
St. Mary	2.60	...
Annotto Bay	2.34	7.28
Water Valley	...	...
Quebec	...	...
Port Maria	...	...
New Ramble	3.89	5.88
Goshen	2.37	...
Rio Hoe	...	...
St. Ann	...	...
Unity Valley	...	...
Albion	...	...
Bradfield	4.45	6.19
Drax Hall	3.64	4.21
Seville	3.27	...
Richmond Estate	2.66	...
Landoverly	2.14	...
Means	5.61	8.24

NORTHERN DIVISION.

SEPTEMBER.

	1884.	Average.
	In.	In.
Lillyfield	4.83	...
St. Ann	2.06	...
Home Castle	3.85	...
Richmond Pen	...	...
Colchis Pen	...	...
Trelawny	...	...
Mahogany Hall	...	...
Hopewell	3.26	5.11
Brampton Bryan	...	...
Bryan Castle	...	...
Nightingale Grove	2.37	...
Braco	1.37	4.55
Arcadia	2.21	...
Harmony Hall	0.93	4.61
Lancaster	1.78	4.80
Vale Royal	3.96	4.98
Hyde	4.88	7.03
Georgia	3.20	4.08
Steelfield	3.45	4.51
Oxford	3.46	...
Cambridge	3.46	...
Spring	1.96	...
Lottery	2.54	4.77
Pembroke	...	...
Holland Pen	1.50	...
Golden Grove	6.10	6.90
Pontabelle	...	...
Green Park	...	...
Tilston	4.80	4.26
Orange Valley	3.99	2.73
Kent	2.75	...
Dundee	4.10	3.98
Gale's Valley	7.60	5.73

NORTHERN DIVISION, *continued.*

		SEPTEMBER.	
		1884.	Average.
		In.	In.
Bellfield	St. James	...	...
Greenwood	...	2.84	...
Guildbro'	...	6.00	...
Spring Vale	...	...	...
Latium	...	18.88	5.67
Cinnamon Hill	...	...	...
Rose Hall	...	...	...
Running Gut	...	2.10	3.66
Tryall	...	2.90	...
Friendship	...	...	...
Irwin	...	...	...
Ironshore	...	2.67	...
Providence	...	3.34	...
Montego Bay (Market)	...	7.80	...
Catherine Hall	...	8.10	...
Catherine Mount	...	5.98	6.10
Fairfield	...	5.92	...
Means		4.64	4.91

WEST CENTRAL DIVISION.

		SEPTEMBER.	
		1884.	Average.
		In.	In.
Linstead	St. Catherine	...	...
Whitney	Clarendon	...	...
Cave Valley	St. Ann	4.09	7.36
Marshall's Pen	Manchester	...	...
Mandeville	...	10.45	10.07
Barton Isles	...	...	...
Appleton	...	9.71	...
Windsor	Trelawny	8.67	...
Maroon Town	St. James	...	...
Holland	St. Elizabeth	11.23	...
Kepp	...	15.62	...
Mount Charles	...	7.73	...
Mount Edgecombe	Westmoreland	14.10	...
Woodstock	...	...	...
Kew Park	...	14.14	...
Hermitage	...	17.79	...
Chester Castle	Hanover	7.41	...
Copse	...	...	...
Burnt Ground	...	...	...
Haughton Grove	...	9.68	...
Kempshot	St. James	9.47	...
Bandon	...	10.22	...
Anchovy	...	7.97	...
Wiltshire	...	6.47	...
Eden	...	7.00	...
Round Hill	Hanover	5.45	...
Cacoon Castle	...	5.38	9.32
Sod Hall Pen	...	...	...
Golden Grove	...	...	...
Tryall	...	5.94	4.67
Sweet River	Westmoreland	8.96	...
Shrewsbury	...	16.33	...
Paradise Pen	...	8.25	...
Fort William	...	...	...
Mackfield	...	...	...
Windsor (Sav.-la-Mar)	...	9.23	6.93
Fontabelle	...	16.21	...
Frome	...	...	...
Belle Isle	...	...	...
Grange Hill	...	...	...
Kew Estate	Hanover	...	...
Haughton Court	...	5.86	...
Orange Cove	...	3.66	8.19
Abingdon	...	10.62	...
Retreat	...	6.75	...
Whitehall	...	...	...
Means		6.46	7.76

SOUTHERN DIVISION.

		SEPTEMBER.	
		1884.	Average.
		In.	In.
Allibon Hospital	St. Thomas	5.20	...
The Abbey	...	7.10	...
Halberstadt	St. Andrew	3.13	...
Hope Reservoirs	...	...	...
Hope Plantation	...	3.40	...
Cherry Garden	...	3.00	...
King's House	...	3.30	...
Monaltrie	...	4.07	7.20
Public Works Office,	Kingston	3.46	5.03
Palisadoes Plantation	...	2.50	3.21
Plumb Point L. H.	...	2.89	4.80
Spanish Town	St. Catherine	...	...
Windsor Park	...	2.84	...
Hog Hole Pen	...	...	...
Headworks, R. C. C.	...	...	...
Roden Pen	...	...	...
Old Harbour	...	...	...
Springfield	...	...	...
The Bog	Clarendon	...	...
Farm Plantation	Manchester	7.00	...
Great Valley	...	...	...
Stone's Hope	...	7.12	...
Pepper	St. Elizabeth	7.03	...
Long Hill	...	7.33	...
Gilnock Hall	...	...	...
Santa Cruz	...	...	...
Bloomsbury	...	...	...
Black River	...	6.24	5.07
Hodges	...	8.00	...
Means		3.83	4.96

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 2.47 and 2.89 inches respectively.

COMPARATIVE TABLE OF RAINFALL,
(Based upon the "Average" Stations only.)

		SEPTEMBER.	
		1884.	Average.
		In.	In.
North Eastern Division		5.61	8.24
Northern	"	4.64	4.91
West Central	"	6.46	7.76
Southern	"	3.83	4.96
The Island		5.14	6.47

The Rainfall for September was therefore still below the average, and it was distributed very irregularly. In St. James nineteen inches fell at Latium, while other places had only two to six; and in Westmoreland eighteen inches fell at Hermitage, while only seven fell at Chester Castle, about 3 miles from the former place.

From Mr. D. Morris, the Director of Public Gardens and Plantations, we learn that:—"For the official year ending the 30th September, the rainfall at the Cinchona Plantation is only 56.12 inches as against an average of 115.58 inches for the last eleven years. This year is therefore remarkable as being the driest on record in the Blue Mountain district.

But for light frequent showers, which however do not show in the readings, being so small in actual volume and the covered aspect of the sky, vegetation would have suffered to a lamentable extent. As it is, the lower coffee properties have been practically burnt up, while

planting operations generally have been greatly retarded even at the highest elevations.

Springs and water courses are lower than they have ever been known in the Blue Mountain district; and even on the Peak itself the ferns and vegetation usually so luxuriant and bathed in moisture, this year present a burnt-up and shrivelled aspect very unusual in such localities."

On the night of the 6th September a smart shock of Earthquake was felt at Montego Bay at 2 or 3 minutes to ten o'clock p.m. and simultaneously at Mount Charles near Black River; and at Windsor 9 miles south of Falmouth.

ISLAND RAINFALL, 1884.			
Month.		Forecast.	Rainfall recorded.
		In.	In.
May	...	4.50	5.75
June	...	4.00	6.96
July	...	5.00	1.88
August	...	4.00	4.69
September	...	6.00	5.14
	...	23.50	24.42
October	...	6.00	...

Kempshot Observatory,
10th October, 1884.

MAXWELL HALL.



JAMAICA.

NOVEMBER 27, 1884.

No. 46.

WEATHER REPORT

FOR THE MONTH OF

OCTOBER, 1884.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON,
1884.

METEOROLOGICAL RESULTS FOR OCT., 1884.

KINGSTON:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric pressure ...	29.920	29.865	29.937	29.911
Temperature of the air ...	76° 2	84° 2	75° 5	78° 6
Dew-point ...	71.9	72.9	72.1	72.3
Humidity ...	87	69	89	82
Maximum Temp. ...				86° 7
Minimum Temp. ...				72.5
Range of Temp. ...				14.2
Direction of the Wind ...				Variable.
Velocity of the Wind in Miles per hour ...				1.1
Percentage of Cloud ...				72

Total Rainfall—9.00 inches.

Average Weather:—"Seasons"—with disturbances.
The highest temperature was 88.6 recorded on the 11th and 12th; the lowest was 68.5 recorded on the 19th; the extreme range was therefore 20.1.

CINCHONA PLANTATION:—

		in.
Barometric Pressure	7 a.m.	25.212
"	3 p.m.	25.182
Temperature of the air	7 a.m.	61° 6
"	3 p.m.	63.7
Dew-point	7 a.m.	57.0
"	3 p.m.	62.0
Maximum Temperature		67.7
Minimum Temperature		56.9
Direction of the Wind		E.
Velocity of Wind in Miles per hour		2.2
Temperature 6 feet below ground		64.3

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32° that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level:—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range elevation about 5,600 feet) the mean maximum and minimum temperatures were 69° 5 and 55° 5 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 86° 6 and 71° 6 respectively.

RAINFALL FOR OCTOBER, 1884.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of reports. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall returns:

NORTH-EASTERN DIVISION.

		OCTOBER.	
		1884.	Average.
		in.	in.
Morant Point L. H.	St. Thomas	19.90	18.40
Hordley	...	19.82	...
Holland	...	19.32	...
Elmwood	Portland	...	...
Port Antonio	...	20.58	...
Cinchona Plantation	St. Andrew	24.89	20.58
New Haven Gap	...	29.02	...
Newton	...	15.85	...
Tweedside	...	25.35	...

NORTH-EASTERN DIVISION, continued.

OCTOBER.

		1884.	Average.
		in.	in.
Stony Hill	St. Andrew	18.89	15.60
Castleton Gardens	St. Mary	18.40	12.49
Annotto Bay	...	...	...
Water Valley	...	13.13	8.69
Quebec	...	12.17	...
Port Maria	...	10.63	...
New Ramble	...	14.65	7.08
Goslen	...	14.12	...
Rio Hoe	St. Ann	6.59	...
Unity Valley	...	...	...
Albion	...	6.97	7.38
Bradfield	...	9.30	7.67
Drax Hall	...	10.81	7.30
Seville	...	6.48	...
Richmond Estate	...	9.23	...
Landoverly	...	8.59	...
Means		14.66	11.13

NORTHERN DIVISION.

OCTOBER.

		1884.	Average.
		in.	in.
Lillyfield	St. Ann	13.83	...
Home Castle	...	6.19	...
Richmond Pen	...	4.90	...
Colchis Pen	Trelawny	3.84	...
Mahogany Hall	...	5.86	5.02
Hopewell	...	6.87	6.08
Brampton Bryan	...	3.33	5.28
Bryan Castle	...	3.02	5.18
Nightingale Grove	...	4.39	...
Braco	...	2.55	4.81
Arcadia	...	4.66	...
Harmony Hall	...	3.80	4.14
Lancaster	...	4.37	5.16
Vale Royal	...	4.62	5.91
Hyde	...	4.56	7.59
Georgia	...	5.27	5.29
Steelfield	...	5.43	5.98
Oxford	...	6.31	...
Cambridge	...	9.10	...
Spring	...	9.36	...
Lottery	...	7.39	6.12
Pembroke	...	...	...
Holland Pen	...	6.10	...
Golden Grove	...	4.30	6.66
Pontakelle	...	6.52	...
Green Park	...	4.80	5.95
Tilston	...	3.58	6.69
Orange Valley	...	6.67	5.31
Kent	...	5.60	...
Dundee	...	5.90	5.70
Gale's Valley	...	3.90	7.43
Greenwood	St. James	5.32	...
Guildbro'	...	3.40	...
Spring Vale	...	8.62	8.62
Latium	...	3.70	9.52
Cinnamon Hill	...	2.89	...
Rose Hall	...	2.56	...
Running Gut	...	4.11	5.63
Tryall	...	...	...
Friendship	...	...	...
Ironshore	...	6.07	...
Providence	...	5.79	...
Montego Bay (Market)	...	4.00	...
Catherine Hall	...	3.50	...
Catherine Mount	...	3.19	7.67
Fairfield	...	3.26	...
Means		4.86	6.17

3.75 inches in less than an hour on the 12th.

WEST CENTRAL DIVISION.

		OCTOBER.	
		1884.	Average.
		In.	In.
Linstead	St. Catherine	9.16	...
Whitney	Clarendon	...	...
Cave Valley	St. Ann	3.69	10.41
Marshall's Pen	Manchester	13.60	14.33
Mandeville	...	8.69	17.19
Barton Isles	...	5.04	...
Appleton	...	8.52	...
Windsor Pen	Trelawny	5.11	...
Maroon Town	St. James	7.59	...
Holland	St. Elizabeth	...	...
Kepp	...	12.61	...
Mount Charles	...	10.17	...
Mount Edgecombe	Westmoreland	6.89	...
Woodstock	...	9.41	...
Kew Park	...	5.70	...
Hermitage	...	9.42	...
Chester Castle	Hanover	3.65	...
Copse	...	...	...
Burnt Ground	...	...	...
Haughton Grove	...	8.21	...
Kempshot	St. James	5.08	...
Bandon	...	...	...
Anchovy	...	6.68	...
Wiltshire	...	6.50	...
Eden	...	4.45	...
Round Hill	Hanover	3.83	...
Cacoon Castle	...	5.22	8.11
Sod Hall Pen	...	...	...
Golden Grove	...	9.17	...
Tryall	...	4.12	6.85
Sweet River	Westmoreland	7.69	...
Shrewsbury	...	11.80	...
Paradise Pen	...	...	...
Fort William	...	...	...
Mackfield	...	6.88	...
Windsor (Sav.-la-Mar)	...	4.28	8.42
Fontabelle	...	9.23	...
Frome	...	...	...
Belle Isle	...	...	...
Grange Hill	...	3.50	...
Kew Estate	Hanover	...	...
Haughton Court	...	3.50	...
Orange Cove	...	2.74	9.06
Abingdon	...	4.17	...
Retreat	...	10.69	...
Whitehall	...	...	...
Means		6.05	10.62

SOUTHERN DIVISION.

		OCTOBER.	
		1884.	Average.
		In.	In.
Albion Hospital	St. Thomas	12.00	...
The Abbey	...	18.21	...
Halberstadt	St. Andrew	13.10	...
Hope Reservoirs	...	...	...
Hope Plantation	...	17.01	...
Cherry Garden	...	15.82	...
King's House	...	16.10	...
Monaltrie	...	11.08	11.64
Public Works Office,	Kingston	...	...
Palisadoes Plantation	...	9.24	12.56
Plumb Point L. H.	...	9.68	9.96
Spanish Town	St. Catherine	7.71	...
Windsor Park	...	6.00	...
Hog Hole Pen	...	9.74	...
Headworks, R. C. C.	...	12.49	...
Roden Pen	...	11.35	...
Old Harbour	...	7.41	...
Springfield	...	7.41	...

SOUTHERN DIVISION, continued.

		OCTOBER.	
		1884.	Average.
		In.	In.
The Bog	Clarendon	...	...
Farm Plantation	Manchester	12.40	...
Great Valley	...	...	...
Stone's Hope	...	11.56	...
Pepper	St. Elizabeth	8.88	...
Long Hill	...	7.30	...
Gilnock Hall	...	11.93	...
Santa Cruz	...	12.00	...
Bloomsbury	...	9.27	...
Black River	...	10.24	9.32
Hodges	...	6.34	...
Means		10.06	10.87

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 7.63 and 9.68 inches respectively.

COMPARATIVE TABLE OF RAINFALL,
(Based upon the "Average" Stations only.)

		OCTOBER.	
		1884.	Average.
		In.	In.
North Eastern Division		14.66	11.13
Northern	"	4.86	6.17
West Central	"	6.05	10.62
Southern	"	10.06	10.87
The Island		8.91	9.70

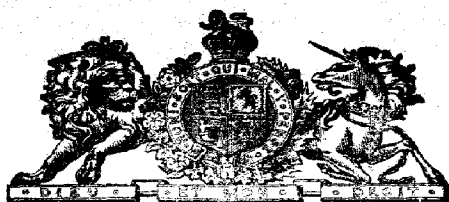
The Rainfall for October was therefore very nearly the average; but the eastern part of the island had very heavy rains on the 7th and 8th, due to a Barometric depression which passed over the island. The night of the 7th, and morning of the 8th were stormy in Kingston; the wind blowing in gusts from the S.E., accompanied by 7 or 8 inches of rain; after the barometer rose the wind veered round to the S.W. Captain Kennedy, the Superintendent of the Morant Point Light House, writes that "on the morning of the 8th, after a night of hard S.E. squalls the wind shifted S.W. with continuous rain for about 6 hours: the fall during this time was 9.53 inches."

This rain of 8 or 9 inches in St. Thomas brought the rivers down, and there was some loss of life and much damage to roads and property. Morant Bay and its neighbourhood suffered severely from the floods which rushed down the valleys from the Blue Mountain range; and in the district of St. David, Dr. Mannors considers that quite as much damage was done as in October, 1879.

It is to be noticed that if allowance be made for this disturbance the forecast of six inches for October would be verified.

ISLAND RAINFALL, 1884.

Month.	Forecast.	Rainfall recorded.
	In.	In.
May	4.50	5.75
June	4.00	6.96
July	5.00	1.88
August	4.00	4.69
September	6.00	5.14
October	6.00	8.91
	29.50	33.33
November	6.00	...
Kempshot Observatory,		MAXWELL HALL.
17th November, 1884.		



JAMAICA.

JANUARY 2, 1885.

No. 47.

WEATHER REPORT

FOR THE MONTH OF

N O V E M B E R, 1884.

Published by Authority.

J A M A I C A :
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON
1885

METEOROLOGICAL RESULTS FOR NOV. 1884.

KINGSTON:—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric pressure ...	29.989	29.917	29.994	29.967
Temperature of the air ...	74° 7	84° 2	73° 8	77° 6
Dew-point ...	69.9	73.6	70.0	71.1
Humidity ...	85	71	88	81
Maximum Temp. ...				87° 9
Minimum Temp. ...				71° 2
Range of Temp. ...				16° 7
Minimum Temp. on the grass ...				64.2
Direction of the Wind ...				S.E.
Velocity of the Wind in Miles per hour ...				2.0
Percentage of Cloud ...				48

Total Rainfall—1.46 inches.

Average Weather:—Fair.

The highest temperature was 90° 1 recorded on the 4th; the lowest was 67° 6 recorded on the 17th; the extreme range was therefore 22° 5; the lowest temperature on the grass was 63° 0 recorded on the 30th.

CINCHONA PLANTATION:—

Barometric Pressure	7 a.m.	...
"	3 p.m.	...
Temperature of the air	7 a.m.	"
"	3 p.m.	...
Dew-point	7 a.m.	...
"	3 p.m.	...
Maximum Temperature		...
Minimum Temperature		...
Direction of the Wind		...
Velocity of Wind in Miles per hour		...
Temperature 6 feet below ground		...

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level:—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range elevation about 5,600 feet) the mean maximum and minimum temperatures were ... and ... respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 86° 8 and 69° 4 respectively.

THE HEALTH OF KINGSTON.

The following table shows the number of deaths in Kingston during the month, from a few groups of diseases compared with the average number for the month, for a few past years:—

	November. 1884.	Average.
Infantile diseases not otherwise specified	10	15
Lung diseases	18	13
Fever	14	6
Dysentery and Diarrhoea	1	4
Various	52	55
Total	95	92

The large number of deaths from Fever is attributable to the drying up of the ground after the heavy rains in October; and generally, for such effects we must look to the Meteorological causes during the preceding month.

RAINFALL FOR NOVEMBER, 1884.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report;

the second columns contain the corresponding average Rainfall according to the Tables published in October 1883, as Nos. 31 and 32 of the present series of reports. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall returns:

NORTH-EASTERN DIVISION.

		NOVEMBER. 1884. | Average.	
		in.	in.
Morant Point L. H.	St. Thomas	...	...
Hordley	...	12.32	...
Holland	...	11.50	...
Elmwood (Long Bay)	Portland	15.27	...
Port Antonio	...	18.88	...
Cinchona Plantation	St. Andrew	...	...
New Haven Gap	...	...	...
Newton	...	6.06	...
Tweedside	...	...	...
Stony Hill Reformatory	...	6.09	8.65
Castleton Gardens	St. Mary	6.96	10.68
Annotto Bay	...	7.10	...
Water Valley	...	2.93	9.82
Quebec	...	6.40	...
Port Maria	...	...	...
New Ramble	...	6.66	11.69
Gosken	...	4.27	...
Rio Hoe	St. Ann	3.32	...
Unity Valley	...	...	...
Albion	...	4.85	10.23
Bradfield	...	...	...
Drax Hall	...	6.90	11.06
Seville	...	4.88	...
Richmond Estate	...	3.39	...
Llandovery	...	4.32	...
Means		5.73	10.36

NORTHERN DIVISION.

		NOVEMBER. 1884. | Average.	
		in.	in.
Lillyfield	St. Ann	4.75	...
Home Castle	...	...	...
Richmond Pen	...	3.75	...
Colehis Pen	Trelawny	2.64	...
Mahogany Hall	...	5.13	4.19
Hopewell	...	1.59	7.97
Brampton Bryan	...	1.55	6.43
Bryan Castle	...	1.66	6.61
Nightingale Grove	...	1.62	...
Braco	...	3.28	6.13
Arcadia	...	2.14	...
Harmony Hall	...	2.34	6.46
Lancaster	...	2.69	6.76
Vale Royal	...	1.86	7.05
Hyde	...	2.76	7.52
Georgia	...	1.71	6.10
Steelfield	...	2.32	5.74
Oxford	...	3.11	...
Cambridge	...	3.49	...
Spring	...	1.38	...
Lottery	...	3.90	4.93
Holland Pen	...	3.74	...
Golden Grove	...	1.50	5.71
Fontatelle	...	3.20	...
Green Park	...	2.32	6.15
Tilston	...	1.70	5.04
Orange Valley	...	2.86	5.24
Kent	...	2.63	...
Dundee	...	2.70	7.55
Gale's Valley	...	5.10	4.73
Greenwood	St. James	4.31	...
Guilabro'	...	4.20	...

NORTHERN DIVISION, continued

		NOVEMBER.	
		1884. | Average.	
		In.	In.
Spring Vale	St. James	8.98	5.03
Latum	...	8.15	5.41
Cinnamon Hill	...	2.83	...
Rose Hall	...	8.30	...
Running Gut	...	3.45	4.95
Tryall	...	...	...
Irwin	...	5.64	5.95
Ironshore	...	2.51	...
Providence	...	5.57	...
Montego Bay (Market)	...	5.68	...
Catherine Hall	...	5.80	...
Catherine Mount	...	5.67	4.16
Fairfield	...	4.89	...
Means		3.48	5.94

WEST CENTRAL DIVISION.

		NOVEMBER.	
		1884. | Average.	
		In.	In.
Linstead	St. Catherine	...	...
Whitney	Clarendon	8.93	6.05
Cave Valley	St. Ann	8.91	5.26
Marshall's Pen	Manchester	...	...
Mandeville	...	6.58	6.56
Barton Isles	...	6.84	...
Appleton	...	7.52	...
Windsor Pen	Trelawny	5.59	...
Maroon Town	St. James	1.65	...
Holland	St. Elizabeth	...	...
Kepp	...	6.65	...
Mount Charles	...	7.37	...
Mount Edgecombe	Westmoreland	6.92	...
Woodstock	...	3.33	...
Kew Park	...	6.15	...
Hermitage	...	...	...
Ochester Castle	Hanover	9.65	...
Copse	...	10.40	7.61
Haughton Grove	...	...	...
Kempshot	St. James	7.80	...
Bandon	...	...	...
Anchovy	...	4.70	...
Wiltshire	...	3.66	...
Eden	...	5.93	...
Round Hill	Hanover	4.00	...
Cacoon Castle	...	6.84	5.89
Golden Grove	...	10.39	...
Tryall	...	4.42	3.64
Sweet River	Westmoreland	6.45	...
Shrewsbury	...	4.91	...
Paradise Pen	...	5.95	...
Mackfield	...	9.07	...
Windsor (Sav.-la-Mar)	...	3.61	4.52
Fontabelle	...	6.75	...
Grange Hill	...	...	...
Haughton Court	...	4.16	...
Orange Cove	...	4.58	4.84
Abingdon	...	12.42	...
Retreat	...	...	...
Means		5.91	5.54

SOUTHERN DIVISION.

		NOVEMBER.	
		1884. | Average.	
		In.	In.
Albion Hospital	St. Thomas	4.00	...
The Abbey	...	5.69	...
Halberstadt	St. Andrew	...	...
Hope Reservoirs	...	...	...
Hope Plantation	...	4.84	...
Cherry Garden	...	5.73	...

SOUTHERN DIVISION, continued.

		NOVEMBER.	
		1884. | Average.	
		In.	In.
King's House	St. Andrew	3.78	...
Monaltrie	...	2.50	5.71
Public Works Office,	Kingston	1.76	3.90
Franklyn Town	...	2.31	...
Rae Town	...	1.46	...
Palisadoes Plantation	...	1.30	3.23
Plumb Point L. H.	...	1.27	3.50
Spanish Town	St. Catherine	...	...
Windsor Park	...	1.24	...
Hog Hole Pen	...	...	...
Headworks, R. C. C.	...	...	...
Roden Pen	...	...	...
Old Harbour	...	...	...
Springfield	...	3.07	...
Farm Plantation	Manchester	3.99	...
Stone's Hope	...	3.95	...
Pepper	St. Elizabeth	2.81	...
Long Hill	...	3.27	...
Gilnock Hall	...	1.77	...
Santa Cruz (Poor House)	...	3.00	...
Bloomsbury	...	6.16	...
Black River	...	3.82	5.43
Hodges	...	4.25	...
Means		2.13	4.35

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 0.92 and 1.27 inches respectively.

COMPARATIVE TABLE.

(Based upon the "Average" Stations only.)

		NOVEMBER.	
		1884. | Average.	
		In.	In.
North Eastern Division		5.73	10.36
Northern	"	3.43	5.94
West Central	"	5.91	5.54
Southern	"	2.13	4.35
The Island		4.30	6.55

The Rainfall for November was therefore a good deal below the average; there were heavy rains at the extreme north-east of the Island, but elsewhere the Rainfall was distributed with marked regularity. Drought is beginning to be felt at places, and the Forecast for December is very small.

Light shocks of Earthquake were felt at the Abbey, St. David, at 12.55 Nov. 19th, and at Montego Bay at 10.16 p.m., Nov. 20th.

ISLAND RAINFALL, 1884.

Month.	Forecast.	Rainfall recorded.
	In.	In.
May	4.50	5.75
June	4.00	6.96
July	5.00	1.88
August	4.00	4.69
September	6.00	5.14
October	6.00	8.91
November	6.00	4.30
	35.50	37.63
December	3.00	...

DEPRESSIONS WHICH HAVE RECENTLY PASSED JAMAICA.

(1.) The first barometric depression this hurricane season occurred on Sept. 6th. At Kempshot the barometric pressure fell one-tenth of an inch below its average while the wind or cloud-drift veered from

NE at 7 a.m. to SSW at 7 a.m. the following day. Consequently the depression passed south of Jamaica on a WNW course.

(2.) The second depression occurred on Oct. 3rd. At Kempshot the barometric pressure fell one-tenth of an inch below its average while the wind or cloud-drift veered from ENE at 7 a.m. to WSW at 7 a.m. the following day. Consequently the depression passed over the western half of Jamaica on a NNW course.

(3.) The third depression occurred on Oct. 7th and 8th, and as soon as it had passed Jamaica it developed into three great hurricanes which devastated the seas north-east of the Bahama Islands.

This disturbance had two centres when it passed over Jamaica; and the third centre was not generated until the 14th, when a cyclone was developed with such great rapidity that at 5 or 6 o'clock the following day the pressure at its centre was at least two inches, and probably two and a half inches of mercury below the normal!

(4.) We shall distinguish these Cyclones by the letters A, B, and C. A passed over the west end of Jamaica on the afternoon of the 7th; it passed to the East of Nassau on the 11th; and it threw the "Edith Godden" on her beam ends at 2 a.m. on the 15th in Lat. $28^{\circ} 54'$, Long. $72^{\circ} 0'$. B passed a little west of Kingston, Jamaica, at 7 a.m. on the 8th; it passed very close to the "Alene" on the 12th in Lat. $24^{\circ} 50'$, Long. $74^{\circ} 0'$; and it nearly wrecked an American brigantine at 3 p.m. on the 15th in Lat. $27^{\circ} 0'$, Long. $70^{\circ} 0'$. It is to be noticed that the "Alene" escaped the A Cyclone, just managed to escape the B Cyclone, and went on her way before C cyclone was generated. The C Cy-

clone commenced on the 14th in Lat. $24^{\circ} 50'$, Long. $70^{\circ} 50'$, or, thereabouts; it had but little motion; and the following day at about 7 p.m. the brig "Rapid Transit" encountered the Cyclone in Lat. 25° , Long. $70^{\circ} 30'$. The barometer on board the brig fell to 27.90 as the hurricane commenced, but as the deck-houses were then under water, the barometer was not read again until 9 p.m.; and as the brig did not pass through the centre, the pressure there was probably much lower, as already stated.

The C cyclone had a rapid easterly motion at soon as it was fairly developed; it was severely felt at Turks Islands, and it caused a well-marked shift of the wind even at Jamaica.

(5.) Before proceeding it will be convenient to lay down upon a chart or map the following positions of the centres of the Cyclones A and B:—

	Noon.	A		B	
		Lat. N.	Long. W.	Lat. N.	Long. W.
Oct. 7th		$18^{\circ} 0'$	$78^{\circ} 22'$	$17^{\circ} 6'$	$77^{\circ} 4'$
8		$19 30$	$78 18$	$18 34$	$76 58$
9		$21 0$	$78 4$	$20 0$	$76 35$
10		$22 30$	$77 40$	$21 25$	$76 10$
11		$24 0$	$77 7$	$22 50$	$75 35$
12		$25 30$	$76 6$	$24 10$	$74 40$
13		$26 54$	$74 54$	$25 24$	$73 20$
14		$28 0$	$73 15$	$26 14$	$71 46$
15		$29 0$	$71 23$	$26 55$	$70 10$

(6.) We must now consider the passage over Jamaica of the two centres of commencing Cyclones. In the following table P. is the atmospheric pressure corrected for Diurnal Variation in order to show the fluctuation due to the cyclones more clearly:—

Oct.	Hour.	Kempshot.			Kingston.		
		P.	Wind.	Cloud Drift.	P.	Wind.	Cloud Drift.
		in.			in.		
7	7 a.m.	29.840	E.S.E., fresh	E.S.E.	29.901	Calm	?
	3 p.m.	.801	E.S.E., fresh	E.S.E.	.839	E.S.E., light	S.S.E.
	11 p.m.	.800	E.S.E., gentle	?	.792	E.S.E., fresh	?
8	7 a.m.	.751	Calm	N.N.E.	.723	S.E., fresh	S.S.E.
	3 p.m.	.784	Calm	W.S.W.	.800	S., gentle	W.S.W.
	11 p.m.	.835	Calm	?	.841	Calm	W.S.W.
9	7 a.m.	.841	S.W., fresh	S.W.	.880	Calm	W.S.W.
	3 p.m.	29.846	S.S.W., strong	S.S.W.	29.876	S.S.W., light	W.

Kempshot and Kingston exchanged telegrams on the afternoon of the 7th, when it appeared that a depression was passing over the west end of the Island; this was the centre A. At Kempshot the following morning there was little or no wind, and the clouds were moving so slowly that it was difficult to ascertain their drift:—Kempshot was then between the two centres A. and B, and the motion of the air due to the first was counteracted by that due to the second. Had the cyclone B been fully developed, it would have made itself more apparent in Kingston on the 7th, and warnings would have been issued; as it happened, the centre B passed West of Kingston at 7 a.m. and crossed the Island before noon.

The barometer, however, did not rise; and this was caused by the cyclones developing; that is to say, although they were moving from Jamaica, yet the pressure was falling at their centres, the combined effect being to keep the pressure steady at Jamaica. This is well shown in the following table, where the pressure has not been corrected for Diurnal Variation:—

Oct.	KEMPSHOT, JAMAICA, ; 7 a.m.	
	Pressure.	Cloud-drift,
	in.	
6	29.905	S.S.E.
7	.854	E.S.E.
8	.765	Calm or N.N.E.
9	.855	S.W.
10	.897	S.W.
11	.894	S.
12	.862	S.
13	.877	S.W.
14	.888	S.W.
15	.887	W.S.W.
16	29.920	N.E.

It will be noticed that on the 15th the pressure was kept down by the C cyclone and that the wind veered more to the westward; but that its effect disappeared the following day, and things began to assume their normal condition.

(7.) The following notes and extracts, marked A, B and C, according to their connection with the three Cyclones, will be read with interest:—

NOTES FROM NASSAU. (A.)

From the *Nassau Guardian* of Oct. 11th we learn that,

"The weather to-day has been very stormy, and from barometric observations there is every reason to believe that a Cyclone is passing to the South of us. The warning signal was displayed at the Light-house early this morning in consequence of the Barometer having fallen below 29.90 deg., and the flag has been flying all day. The small vessels having been removed to the White-ground for protection, the lower part of the harbour presents quite a blank appearance. The wind thus far is blowing from the N.E. very strongly, with occasional squalls of rain."

ABSTRACT of the LOG of the S. S. "Edith Godden," on her voyage from New York to St. Ann's Bay, Jamaica, communicated by Messrs. J. E. Kerr & Co. (A.)

Oct. 12th—Noon; Lat. 28° 27', Long. 74° 30'; Bar. 29.88 Strong easterly breeze, dull, squally weather.

4.30 p.m. Bar. 29.70; strong gale S.E.; high cross sea, ship labouring heavily; hove her to, heading S.S.E.

Oct. 13th—From 1 a.m. to 11 a.m., strong S.E. gale, very high sea, ship labouring heavily, violent squalls; ship lying-to under storm F. try sail and reefed M. stay sail.

Noon: Lat. 28° 9', Long. 73° 50'; Bar. 29.60.

From noon to midnight strong E.S.E. gale and high sea.

Oct. 14th—From 0 a.m. to 8 a.m. wind and sea decreasing; Bar. at 0 a.m. 29.65, at 8 a.m. 29.60.

From 8 a.m. to noon strong S.E. by E breeze, heavy squalls, high sea, and very heavy S by W swell; ship labouring heavily.

Noon: Lat. 28° 41', Long. 72° 36'; Bar. 29.63.

From noon to 6 p.m. wind SE by E, strong, sea increasing.

7 p.m. Wind veered in a squall to ENE; Bar. 29.45.

11 p.m. Bar. 29.30; heavy E.N.E. gale; hove to on Port-tack under F. trysail and reefed M. stay-sail.

Oct. 15th—1 a.m. Bar. 29.10; wind and sea increasing; terrific squalls.

2 a.m. Bar. 29.00, hurricane from E.N.E., blowing ship on her beam ends.

4 a.m. Bar. 29.05; trysail and staysail blown away.

Noon; Bar. 29.40; N.E. hurricane, but more steady; tremendous sea.

4 p.m. Bar. 29.40; wind N.N.E., less violent; sky clearing; tremendous seas.

9 p.m. Bar. 29.65; wind and sea moderating.

Oct. 16th—1 a.m. Bar. 29.80; wind N by E strong, very high sea. Position at 1 a.m. Lat. 27° 30', Long. 72° 57'. Ship put on her course. Position at noon Lat. 25° 45', Long. 73° 25'; wind N.N.E.

Notes supplied by Captain Seiders of the Atlas Company's S.S. "Alene", and communicated by Captain W. P. Forwood. (B.)

"We left New York on the 7th Oct. at 3.30 p.m. and experienced fine weather until the 11th. At noon of this day we were in Lat. 25° 30' N, Long. 74° 15' W, 917 miles from New York, and here we

fell in with very boisterous weather continuing until the 13th in Lat. 23° 58', Long. 73° 50'. Most of the time the wind was blowing with hurricane violence, reducing our speed to such an extent that we made only 92 miles on our course in the 48 hours. The hurricane commenced with the wind from E.N.E., hauling slowly to S.E. and moderating after hauling to S.W. The Barometer at the commencement of the unsettled weather stood at 30.29, falling to 29.65 on the 12th, and gradually rising again as the wind hauled to the westward".

Notes—supplied His Honour R. B. Llewellyn, Commissioner of Turks Island, by the Captain of an American Brigantine laden with lumber, and bound from New York to Kingston Jamaica. (B.)

Oct. 12th—Noon. Lat. 24°. Long. 72°. Bar. 29.90; wind E.S.E.; signs of a hurricane, and course changed to E.N.E. for two days.

Oct. 14th—Noon. Lat. 26°. Long. 70°. Bar. 29.80; and wind S.E. by S.; heavy squalls and rain.

Oct. 15th—Noon; Lat. 27°. Long. 70°. Bar. 29.50; heavy gale from S.E. Within an hour the Bar. fell to 29.20, and it blew a hurricane from the S.E. The Bar. oscillated above and below 29.20 until 5 p.m. when the wind began to back from S.E. to E., N.E. and N. Finally the wind got to N.W. at midnight and moderated.

The Brigantine arrived at Turks Island in a sinking condition but was kept afloat by her cargo of lumber: the Captain said he had been in several hurricanes before but that he never knew the wind to blow so hard as in this one.

Notes—supplied His Honour R. B. Llewellyn, Commissioner of Turks Islands, by Captain Compton of the Brig "Rapid Transit." (C.)

Oct. 14th—Noon; Lat. 25° 20', Long. 70° 30'; Bar. 29.85; heavy gale from E.S.E. to S.E.

Oct. 15th—1 p.m. Bar. 29.50; heavy gale S.E.

4 " " 28.40; S, hurricane

5 " " 28.10; S.E., do.

5.30 " 27.90; N.E., do.

9 " " 29.20; N.N.E.

The vessel was in Lat. 25°. Long. 70° 30' or thereabouts; she was "hove down" with her deck-houses under water between 5.30 and 9 p.m. After 9 p.m. the Bar. rose rapidly and the wind got round to N. and moderated.

NOTES FROM TURKS ISLAND. (C.)

The following notes have been kindly sent me by His Honour R. B. Llewellyn:—

Oct. 1st to 14th—Wind S, with an inclination towards W; aneroid 29.95.

Oct. 14th—Aneroid 29.90 at night.

Oct. 15th—4 a.m. Wind S.S.W., fresh.

8 a.m. " S.W., strong.

3 p.m. Gale at its height: aneroid

28.85 (its lowest.)

5 p.m. Wind W.

9 p.m. " N.W.

Oct. 16th—6 a.m. " N.

"The gale sent four large vessels ashore; and the sea off the Island has been terrific—nothing has approached it in severity since the great hurricane of Sept. 30th, 1866—indeed some people think the sea was worse on this occasion".

(8.) Now it is particularly to be noticed that both the "Edith Godden" and the American brigantine

changed their courses, and instead of avoiding, ran into the Cyclones A and B respectively ; and I have been requested to point out what they should have done.

When a ship is threatened by a Cyclone, not only is the direction of the danger required but also the direction in which the danger is moving. When the barometer is falling and the wind freshening, the direction of the Cyclone can generally be determined from that of the wind according to the well-known cyclonic rules ; but the direction in which the cyclone is moving can only be ascertained by stopping the vessel and by noticing whether the barometer continues to fall or not and whether the wind changes its direction or not. Had the "Edith Godden" stopped her engines for 6 hours or so on the 13th, it would have been found that the wind would have increased from the same direction while the barometer fell continuously, so that it would have been apparent that the Cyclone was moving

towards her, and then a N.W., course would have placed her out of danger. And as for the brigantine, had she maintained her position on the 12th she would have found that her barometer would have remained steady while the wind veered from S.E. to S as the Cyclone passed 120 nautical miles W of her ; but instead of remaining quietly and watching, she ran about 216 nautical miles out of her course straight into the Cyclone she wished to avoid !

Similarly with regard to the brig "Rapid Transit", excepting indeed that the Cyclone C was so rapidly generated that any precaution was perhaps unavailing ; but still the fact has to be noticed that the brig had warning on the 14th, and went straight into the cyclone on the 15th.

Kempshot Observatory,

MAXWELL HALL

15th December, 1884.



JAMAICA.

JANUARY 22. 1885.

No. 48.

WEATHER REPORT

FOR THE MONTH OF

DECEMBER, 1884.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING AND STATIONERY ESTABLISHMENT, 79 DUKE STREET, KINGSTON

1885

METEOROLOGICAL RESULTS FOR DEC., 1884.

KINGSTON :—

	7 a.m.	3 p.m.	11 p.m.	Mean.
	in.	in.	in.	in.
Barometric pressure ...	30.041	29.953	30.034	30.004
Temperature of the air ...	71° 2	84° 8	72° 1	76° 0
Dew-point ...	66.9	70.9	67.7	68.5
Humidity ...	87	64	88	79
Maximum Temp. ...	...	...	...	86° 6
Minimum Temp. ...	...	...	...	67° 9
Range of Temp. ...	...	...	...	18° 7
Minimum Temp. on the grass ...	...	...	...	62.3
Direction of the Wind ...	...	...	...	S.E
Velocity of the Wind in Miles per hour ...	...	...	...	2.9
Percentage of Cloud ...	...	...	...	28

Total Rainfall—0.00 inches.

Average Weather :—Fine and dry.

The highest temperature was 89° 5 recorded on the 1st; the lowest was 63° 3 recorded on the 29th; the extreme range was therefore 26° 2; the lowest temperature on the grass was 58° 8 recorded on the 11th.

CINCHONA PLANTATION :—

Barometric Pressure	7 a.m.	...	25.301
"	3 p.m.	...	25.247
Temperature of the air	7 a.m.	...	58° 4
"	3 p.m.	...	63.4
Dew-point	7 a.m.	...	55.2
"	3 p.m.	...	60.1
Maximum Temperature	...	...	67.4
Minimum Temperature	...	...	53.9
Direction of the Wind	...	...	Var.
Velocity of Wind in Miles per hour	...	...	6.1
Temperature 6 feet below ground	...	...	63° 0

NOTE.—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at the two stations; their readings have all been corrected. The following are the elevations of these stations above the sea-level :—

Kingston (Rae Town)	5 feet
Cinchona Plantation	4,850 "

At New Haven Gap (in the Blue Mountain Range elevation about 5,600 feet) the mean maximum and minimum temperatures were 67° 0 and 50° 3 respectively.

At King's House (in the plains of Liguanea, elevation about 400 feet) the mean maximum and minimum temperatures were 86° 7 and 66° 2 respectively.

THE HEALTH OF KINGSTON.

The following table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past :—

	December 1884. | Average.	
Infantile diseases not otherwise specified	10	19
Lung diseases	12	15
Fever	19	8
Dysentery and Diarrhoea	8	5
Various	48	57
Total	97	102

The increasing range of temperature has, as usual, caused a few deaths from Dysentery and Diarrhoea; and this increased range, and falling-off in wind-velocity, have apparently increased the effect on Fever of the drying-up of the ground alluded to in the last report.

RAINFALL FOR DECEMBER, 1884.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October 1883, as Nos. 31 and 33 of the present series of reports. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall returns :—

NORTH-EASTERN DIVISION.

DECEMBER.

		1884.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	5.59	6.78
Hordley	...	6.22	...
Holland	...	5.38	...
Elmwood (Long Bay)	Portland	6.29	...
Port Antonio	...	7.59	...
Cinchona Plantation	St. Andrew	3.15	13.83
New Haven Gap	...	11.47	...
Newton	...	1.23	...
Tweedside	...	...	...
Stony Hill Reformatory	...	2.68	3.71
Castleton Gardens	St. Mary	5.37	13.17
Annott Bay (Hospital)	...	5.51	...
Water Valley	...	5.64	10.25
Quebec	...	7.33	...
Port Maria	...	...	...
New Ramble	...	...	...
Gosken	...	4.15	...
Rio Hoo	St. Ann	2.39	...
Unity Valley	...	...	...
Albion	...	3.95	8.07
Bradfield	...	3.09	10.91
Drax Hall	...	3.71	8.57
Seville	...	3.73	...
Richmond Estate	...	1.79	...
Llandoverly	...	3.28	...
Means		4.14	9.41

NORTHERN DIVISION.

DECEMBER.

		1884.	Average.
		In.	In.
Lillyfield	St. Ann	4.53	...
Home Castle	...	1.33	...
Richmond Pen	...	0.55	...
Colchis Pen	Trelawny	0.18	...
Mahogany Hall	...	0.83	3.76
Hopewell	...	1.51	9.75
Brampton Bryan	...	1.14	7.24
Bryan Castle	...	0.76	7.61
Nightingale Grove	...	1.26	...
Braco	...	1.20	7.20
Arcadia	...	2.17	...
Harmony Hall	...	2.03	7.24
Lancaster	...	1.87	7.57
Vale Royal	...	3.02	9.29
Hyde	...	1.50	8.08
Georgia	...	1.25	8.41
Steelfield	...	1.85	7.99
Oxford	...	1.30	...
Cambridge	...	1.33	...
Spring	...	1.34	...
Lottery	...	...	...
Holland Pen	...	1.26	...
Golden Grove	...	1.65	5.33
Fontabelle	...	1.63	...
Green Park	...	1.10	5.87
Tilston	...	0.96	5.67

NORTHERN DIVISION, *continued*

		DECEMBER.	
		1884. | Average.	
		In.	In.
Orange Valley	Trelawny	1.25	6.99
Kent	...	2.13	...
Dundee	...	1.15	6.46
Gale's Valley	...	1.10	5.60
Greenwood	St. James	1.69	...
Guildbro'	...	0.20	...
Spring Vale	...	2.07	6.67
Latium	...	2.77	5.98
Cinnamon Hill	...	1.87	...
Rose Hall	...	1.10	...
Running Gut	...	2.53	5.71
Tryall	...	3.47	...
Irwin	...	...	...
Ironshore	...	2.05	...
Providence	...	2.50	...
Montego Bay (Market)	...	2.51	...
Catherine Hall	...	2.65	...
Catherine Mount	...	3.31	6.74
Fairfield	...	3.26	...
Means		1.73	7.26

WEST CENTRAL DIVISION.

		DECEMBER.	
		1884. | Average.	
		In.	In.
Linstead	St. Catherine	...	...
Whitney	Clarendon	2.00	3.31
Cave Valley	St. Ann	0.68	2.75
Marshall's Pen	Manchester	2.34	3.30
Mandeville (Prison)	...	2.48	3.84
Barton Isles	...	...	...
Appleton	...	0.72	...
Windsor Pen	Trelawny	1.47	...
Maroon Town	St. James	1.50	...
Holland	St. Elizabeth	...	...
Kepp	...	3.55	...
Mount Charles	...	1.62	...
Mount Edgecombe	Westmoreland	3.05	...
Woodstock	...	4.08	...
Kew Park	...	1.15	...
Hermitage	...	...	...
Chester Castle	Hanover	2.06	...
Copse	...	1.25	4.67
Haughton Grove	...	0.85	...
Kempshot	St. James	1.15	...
Bandon	...	1.90	...
Anchovy	...	1.63	...
Wiltshire	...	0.49	...
Eden	...	2.33	...
Round Hill	Hanover	0.75	...
Cacoon Castle	...	4.04	6.76
Golden Grove	...	2.73	...
Tryall	...	1.28	2.08
Sweet River	Westmoreland	0.47	...
Shrewsbury	...	2.05	...
Paradise Pen	...	0.70	...
Mackfield	...	1.23	...
Windsor (Sav.-la-Mar)	...	1.19	2.27
Fontabelle	...	3.00	...
Haughton Court	...	...	...
Orange Cove	...	1.26	4.06
Abingdon	...	1.30	...
Retreat	...	3.08	...
Means		1.84	3.67

SOUTHERN DIVISION.

		DECEMBER.	
		1884. | Average.	
		In.	In.
Albion Hospital	St. Thomas	1.00	...
The Abbey	...	1.59	...
Halberstadt	St. Andrew	0.50	...
Hope Reservoirs	...	...	...
Hope Plantation	...	0.13	...
Cherry Garden	...	...	...
King's House	...	0.35	...
Monaltrie	...	0.46	2.37
Public Works Office,	Kingston	...	...
Franklyn Town	...	0.10	...
Rae Town	...	0.00	...
Palisadoes Plantation	...	0.00	1.79
Plumb Point L. H.	...	0.00	1.57
Spanish Town	St. Catherine	...	...
Windsor Park	...	1.23	...
Hog Hole Pen	...	...	...
Headworks, R. C. C.	...	...	...
Roden Pen	...	...	...
Old Harbour	...	...	...
Springfield	...	...	...
Farm Plantation	Manchester	4.36	...
Stone's Hope	...	2.44	...
Pepper	St. Elizabeth	2.85	...
Long Hill	...	...	...
Gilnock Hall	...	1.61	...
Santa Cruz (Poor House)	...	...	...
Bloomsbury	...	2.10	...
Black River	...	1.59	2.29
Hodges	...	1.58	...
Means		0.51	2.00

COMPARATIVE TABLE.

(Based upon the "Average" Stations only.)

		DECEMBER.	
		1884. | Average.	
		In.	In.
North Eastern Division		4.14	9.41
Northern	"	1.73	7.26
West Central	"	1.84	3.67
Southern	"	0.51	2.00
The Island		2.06	5.58

The Rainfall for December was therefore less than half the average; and it was small over the whole Island, excepting indeed at New Haven Gap in the Blue Mountains: on the other hand, no rain fell at the Plumb Point Light House and the Palisadoes Plantation.

From Seville Mr. H. P. Thompson writes that all the rivers are giving out, and that the Llandoy-ery river was dry four times in 1884—a river never known to be dry before. Referring to our Rainfall tables and returns it appears that while the average annual Rainfall for the Island is about 69 inches, there fell in

1880—55 inches

1881—69 "

1882—58 "

1883—48 "

1884—50 "

so that while the Rainfall in these five years has

once been equal to the average, it has four times been below the average; and consequently the springs and rivers are being affected.

With regard to the Rainfall Forecasts, they are telegraphed to Kingston for publication each month as soon as the Rainfall for the preceding month has been approximately ascertained. In the table below it will be seen that while the Forecast between May and December, inclusive amount to 38.50 inches, the Rainfall actually recorded amounted to 39.69 inches. Now as the average Rainfall for these eight months is as large as 55.35 inches, it would seem that the system is tolerably correct, although indeed the irregularities show that the details have not yet been worked out.

ISLAND RAINFALL.

			Forecast.	Rainfall recorded.
			In.	In.
1884	May	...	4.50	5.75
	June	...	4.00	6.96
	July	...	5.00	1.88
	August	...	4.00	4.69
	September	...	6.00	5.14
	October	...	6.00	8.91
	November	...	6.00	4.30
	December	...	3.00	2.06
Sum			38.50	39.69
1885	January	...	2.00	...

KINGSTON, JAMAICA—MEAN RESULTS FOR THE YEAR 1884.

Month.	Barometer : corrected and reduced to 32° and sea level.				Thermometers. (F.)							
	7 a.m.	3 p.m.	11 p.m.	Mean.	7 a.m.	3 p.m.	11 p.m.	Mean.	Max.	Min.	Diff.	Min. on grass.
	In.	In.	In.	In.	°	°	°	°	°	°	°	°
January	30.101	30.021	30.109	30.077	69.4	82.9	71.5	74.6	84.8	67.5	17.3	60.6
February	30.088	30.008	30.097	30.064	69.1	81.6	70.7	73.8	83.6	67.0	16.6	59.1
March	30.081	30.006	30.091	30.059	71.0	81.3	71.6	74.6	83.7	67.5	16.2	
April	30.088	29.959	30.035	30.011	75.5	83.0	73.1	77.2	84.3	68.9	15.4	
May	30.016	29.944	30.019	29.993	78.7	82.6	74.7	78.7	85.5	71.5	14.0	
June	29.997	29.944	30.015	29.985	79.8	84.1	76.4	80.1	86.8	73.3	13.5	
July	30.034	29.966	30.046	30.015	80.6	86.7	78.1	81.8	88.8	74.1	14.7	
August	30.001	29.926	30.015	29.981	78.5	85.1	77.2	80.3	88.4	73.5	14.9	
September	29.993	29.923	30.011	29.976	78.4	85.4	77.2	80.3	88.7	74.0	14.7	
October	29.930	29.865	29.937	29.911	76.2	84.2	75.5	78.6	86.7	72.5	14.2	
November	29.989	29.917	29.994	29.967	74.7	84.2	73.8	77.6	87.9	71.2	16.7	64.3
December	30.041	29.957	30.045	30.014	71.2	84.8	72.1	76.0	86.6	67.9	18.7	62.3
Mean.	30.026	29.953	30.034	30.004	75.3	83.8	74.3	77.8	86.3	70.7	15.6	

Month.	Wind		Dewpoint and Humidity.		Cloud per cent.	Rainfall.	Absolute Temperature.			Remarks.
	Direction (from)	Miles per hour.					Max.	Min.	Diff.	
					Inches.	°	°	°		
January	S.E.	4.0	66.8	78	32	0.75	88.4	63.5	24.9	Fair.
February	S.E.	3.9	66.4	79	33	0.11	88.0	62.3	25.7	Fair.
March	S.E.	4.1	67.9	80	29	1.14	90.2	63.2	27.0	Fair.
April	S.E.	2.9	70.0	80	30	0.11	89.1	64.7	24.4	Fair and dry.
May	S.E.	2.9	72.5	82	52	3.09	87.2	67.3	19.9	Fair, not much air moving.
June	S.E.	3.1	73.1	80	71	1.77	90.4	70.5	19.9	Cloudy.
July	SE by E.	4.3	71.8	73	52	0.69	91.6	72.2	19.4	Fair and dry.
August	S.E.	3.0	72.6	78	64	4.79	91.1	70.8	20.3	Cloudy.
September	S.E.	3.0	73.2	79	65	3.33	92.7	71.9	20.8	Cloudy.
October	Variable.	1.1	72.3	82	72	9.00	88.6	68.5	20.1	"Seasons," with disturbances.
November	S.E.	2.0	71.1	81	48	1.46	90.1	67.6	22.5	Fair.
December	S.E.	2.9	68.5	79	28	0.00	89.5	63.3	26.2	Fine and dry.
Mean.	S.E.	3.1	70.5	79	48	26.24	89.7	67.1	22.6	
Total.										

ASTRONOMICAL NOTES.

ECLIPSES IN THE YEAR 1885.

I. An Annular Eclipse of the Sun, March 16, invisible in Jamaica.

II. A partial Eclipse of the Moon, March 30, invisible in Jamaica.

III. A total Eclipse of the Sun, Sept. 8, invisible in Jamaica.

IV. A partial Eclipse of the Moon, Sept. 24th, visible in Jamaica.

Kingston Mean Time;

	hr.	min.
First contact with Shadow	1	7.8 a.m.
Middle of the Eclipse	2	41.1 a.m.
Last contact with Shadow	4	14.4 a.m.

Three-fourths of the Moon's diameter will be obscured at the middle of the Eclipse. The Penumbra shadow will first be seen 18 minutes before the time of First contact, and it will disappear 18 minutes after the time of Last contact.

OCULTATION OF THE PLANET JUPITER.

On the morning of Dec. 28th 1885, the Moon will pass over or *ocult* the planet Jupiter. The times of contact have been approximately computed for the Kempshot Observatory; and from them the times of contact for Kingston may be roughly obtained by adding 4 minutes.

Kempshot Mean Time.

	hr.	min.	a.m.
First contact (disapp.)	1	57.6	a.m.
Last contact (reapp.)	3	14.7	a.m.

As the Moon will then be commencing her Last Quarter, she will rise about midnight, and her bright limb will first sweep over the planet and his satellites; and as the occultation is nearly central, the planet will reappear at a point nearly opposite to the point of disappearance.

The Third and Fourth satellites will be close together, and will be occulted about 8 minutes before the planet. The First satellite will be occulted about 40 seconds before the First Contact; and the Second satellite about 40 seconds after the planet has disappeared. At the reappearance of the planet and his satellites the First will not be seen as it will be eclipsed by the shadow of Jupiter :—

Kempshot Mean Time.

	hr.	min.	a.m.
First sat. eclipse disapp.	2	0.0	a.m.
“ “ reapp.	5	26.5	a.m.

MAXWELL HALL.

Kempshot Observatory,
Jany. 14th, 1884.